DOCUMENT RESUME

ED 118 552 SP 009 840

AUTHOR Lickona, Thomas, Ed.; And Others
TITLE Educational Alternatives: A Sourcebook. Education for the Development of the Person. Volume 2, Numbers 1 and 2, Spring-Fall 1975.
INSTITUTION State Univ. of New York, Cortland. Coll. at Cortland. Div. of Education.
PUB DATE 75
NOTE 166p.; Proceedings of the 1973 and 1974 Conferences on Open Education

EDRS PRICE MF-$0.83 HC-$8.69 Plus Postage
DESCRIPTORS *Affective Objectives; *Educational Philosophy; Educational Quality; Elementary Education; Emotional Development; *Humanistic Education; Learning Theories; *Moral Development; *Open Education; Performance Based Education; Self Concept; Student Role; Teacher Role

ABSTRACT

The document is a collection of articles, all of which concern educational reform in general and humanistic/affective education in particular. The first article establishes a theme for the book in warning that undue stress on competencies and skills may mean losing sight of equally valid and important humanistic aims of education. A common concern of many of the articles is developing positive self-concept in children; encouraging moral development; helping the child to understand and express humor, aggression, anger, and other personal feelings; and devising curricula that can spark a child's imagination. Two articles focus on the habit of teachers to shy away from teaching science, both out of unfamiliarity with the subject and a lack of ingenuity in thinking of ways to make it accessible to young children. Experiments and projects are suggested which are both lively and educational. Another article examines children's difficulty with math and tries to focus on what kinds of operational thinking, as identified by Piaget, are required to master different mathematical problems, An article by Albert Shanker argues for strengthening the role of teacher associations in issues of educational policy. Other articles concern the role of the teacher in the open classroom, student role in a person-centered program, and competency based teacher education. (CD)

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Educational Alternatives:
A Sourcebook

EDUCATION FOR THE DEVELOPMENT OF THE PERSON

Thomas Lickona and Susan Dalziel *(Editors)*
David Young, Peter Radmore, and
Alan Willsey *(Consulting Editors)*

Proceedings of the 1973 and 1974
Conferences on Open Education

Division of Education
State University of New York
COLLEGE AT CORTLAND

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Vol. 2, No.'s 1 & 2

2

Spring-Fall, 1975

Educational Alternatives: Volume II

EDUCATION FOR THE DEVELOPMENT OF THE PERSON

Thomas Lickona and Susan Dalziel, Editors

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Alan Willsey, Consulting Editors

PART I: THEORETICAL PERSPECTIVES — Page

Ch. 1 The Development of Self-Concept: A Humanistic Approach to Education 1

Arthur Combs

Ch. 2 The Challenge of Watergate to American Schools: Fostering the Moral Development of Children . . . 12

Thomas Lickona

Ch. 3 Child Development: A Basis for Open Classroom Curriculum 35

Patricia F. Carini

Ch. 4 Science Curriculum in the Open Classroom--Structure or Stricture? 48

Verne N. Rockcastle

Ch. 5 The Role of the Teacher in the Informal Classroom . 61

Dorothy H. Cohen

PART II: THEORY INTO PRACTICE

Ch. 7 Hostility and Humor in the Classroom or "What's the Matter, Can't You Take a Joke?" 71

Peggy Manring

Ch. 8 Angry Acts and Alternatives 82

Susan Dalziel

PART II: THEORY INTO PRACTICE (cont.)

Page

Ch. 9 Toward Aesthetic Education: A Personal Experience . 87

Judy Cloues

Ch. 10 Monster Dice and Mathematics: A Way to Apply Piaget 92

Susan Dalziel

Ch. 11 Teaching Science in the Informal Classroom 102

Peg Hasch

PART III: ISSUES IN EDUCATIONAL REFORM

Ch. 12 Shall Teachers Have a Role in Determining Educational Policy? 118

Albert Shanker

Ch. 13 The Role of the Student in a Person-Centered Program 127

Susan Dalziel

Ch. 14 Competency-Based Teacher Education: An Educational Alternative for Teachers 148

Alan Willsey

PART 1:

THEORETICAL PERSPECTIVES

THE DEVELOPMENT OF SELF-CONCEPT: A HUMANISTIC APPROACH TO EDUCATION

Arthur Combs

University of Florida at Gainesville

Ever since 1900, every list of objectives for American education has been full of humanistic goals; education ought to be for self-understanding, for positive attitudes, for self-fulfillment, for citizenship, for responsibility, for mental and emotional well-being, for creativity, for preparation for change. Every list we have had has always included these kinds of humanistic objectives. And yet currently we are behaving as though these objectives hardly existed as we go madly down the road of behavioral objectives and performance-based criteria, with a complete disregard for the effects of these approaches on the humanistic values we proclaim.

We are applying industrial techniques right and left with no concern for what happens to the teachers or to the students in the process. And we ought to know better, too! When industry applied these techniques to the problems of production, the workers felt dehumanized, and what they did was to get together to form unions and beat the system. I would like to submit that our problem in education today is not a lack of efficiency but a lack of humanity. I would like to suggest that we can get along in our society much better with a poor reader than we can with a bigot. We're doing a great deal in our public schools about reading but very little about bigotry. I would like to submit that we need to be concerned about the holistic objectives which we have mouthed so often but put into effect so seldom in our educational system.

Now when I speak of humanistic objectives, I mean three kinds of things. I mean first of all processes such as intelligent behavior, creativity, adaptability, responsibility, the self-concept, identification, and self-actualization. I'm referring also to the whole field of affective aspects, the kinds of things that have to do with whether or not anything that you learn will make any difference. And thirdly, of course, I'm referring to the whole area of human feelings and attitudes, the things that really make us human, that have to do with what people feel and think and believe and understand about themselves and others.

For 30 years now we've known something about the self-concept. What do we know about it? In the first place we know that it's a system of beliefs. It's what a person believes about himself. We also know that the self-concept is something which is learned; a person is not born with it, but learns it from the kinds of experiences

he has with the world in which he's living. Another thing we know about the self-concept is that it is highly stable; once it has come into being, once it has become established, it's a very difficult thing to change.

Self-Concept and Learning

We know also that the self-concept affects every aspect of human behavior; for example, we know that the self-concept is intimately related to the problem of learning. The basic principle of learning and perceptual thought is this: that any information will have an effect upon the person's behavior only in the degree to which he has discovered the personal meaning of that information for him. Let me illustrate this principle. Let's suppose that I'm riding along to work in the morning in my car and I turn on the radio and I hear the latest hog market quotations. I don't have any hogs and this information sifts through my consciousness, goes in one ear and out the other as we say, has no meaning to me. A little later I hear there's been a serious accident this morning at the corner of University Avenue and 13th Street, and Mrs. Ethel Brown has been seriously injured and taken to the hospital. Well, this is a little more close to me, you know, it happened to a person and I'm a person. So this information has more meaning to me and I say to myself, "You know, that's a terrible thing, another accident, something's got to be done about it," and I slow down for a block or two. Now let's suppose that Mrs. Ethel Brown is not a total stranger to me; she's the wife of one of my graduate students. I've never met the lady but I know who her husband is, and I hear this same piece of information and I say to myself, "Hey, that's Ed Brown's wife, that's a terrible thing!" I think about it all the way to the office, when I get there I mention it to my secretary, and I say, "Call the hospital, see how she's getting along." I talk to the other people on the staff, I say, "Hey, did you hear what happened to Ed Brown's wife? How's he fixed financially, what about his kids?" Let's go one step further. Let's suppose that Mrs. Ethel Brown is the married name of my daughter; what then? This same piece of information now has a tremendous effect on my behavior.

In education we've done very well at giving people information. But where we are sick today is in helping people to discover the meaning of the information which we provide them. A good example is the dropout. The dropout is not a dropout because we didn't tell him. He's a dropout because he never discovered the meaning of what we told him, and as a consequence he left the system because it seemed to him to be irrelevant.

Self-Concept and Emotion or Affect

We know also that the self-concept is deeply related to the problem of emotion, to the question of human feelings and attitudes. Emotion has to do with the degree to which a person is involved in any

situation. Let me give you an illustration. Let's take the young woman who has a lover in Vietnam. He's been there a long time, been there for several years, and then she gets word that he's coming home in six months, and that's good. Then he's coming home next month... next week...now he's on his way...he's back in the country.. . it's time to go to the airport...here comes his plane...Ah!, there he is! Look at you. Each of us is feeling something about this young woman's problem, and as the event comes closer to herself and to yourself, you feel more deeply about it. That's what we mean by emotion; emotion is only the degree to which any event, any idea, is related to the self. The closer a thing is to the self, the more emotion we feel. And so the self-concept must always be involved in any kind of learning situation, because it has to do with the involvement of the person with the subject matter.

Sometimes you hear people say, "Do you want to have education for intellect or education for adjustment?" as though we could separate these two, as though we had to make a choice between smart psychotics or well-adjusted dopes. What we have to recognize is that the affective aspects of education have everything to do with learning. In the final analysis we're either going to have affective education or none at all because if it doesn't effect the person's self and his feelings, it is not going to register in his behavior.

Self-Concept and Intelligence

We know also that the self-concept is related to intelligence. By intelligent behavior we mean the degree to which a person can behave effectively. That means that intelligence is affected by self-concept, because it makes a lot of difference whether you believe that you can or you can't. If you believe that you can, you will try; if you don't believe that you can, you will not try, and that will effect your intelligent behavior. So intelligence, too, is a function of the self-concept.

We know that with respect to the simple problem of reading, for example, you almost never find a child brought to the reading clinic these days who has something wrong with his eyes. We catch that pretty early, routinely. The child who comes to the reading clinic is likely to be a child who believes he can't read, and because he believes he can't read, he doesn't try; because he doesn't try he doesn't get any practice, and when he doesn't get any practice he doesn't do it very well. And then his teacher asks him to read and he doesn't read very well, and she says to him, "My goodness, Jimmy, you don't read very well." And that just proves what he already thought in the first place! Then what we do is to send home a failing grade so his parents can get in the act, too, and they also tell him what a bad reader he is. This child is living in a world where everything is confirming his belief about himself.

We now know also that this circular effect is of tremendous

significance in our entire society, as we have thousands and thousands of people who believe they can only do "X" much, and because they believe they can only do "X" much, that's all the much they do. And the rest of the people see them only doing "X" much, and we say, "Oh well, that's an X-much person." This is the problem of thousands of deprived people in our society. This is the problem of the Chicano in the southwest, this is the problem of the black in the south where I live, this is the problem of minority groups everywhere in our society.

Self-Concept and Mental Health

We know also that the self-concept is related to a person's mental health. We know that the distinction between being adjusted and being maladjusted is basically a question of whether you see yourself in positive or negative ways. We know that a person who sees himself in essentially positive ways, who sees himself as being liked and wanted and acceptable and able and dignified and worthy, this kind of person tends to be well-adjusted and effective. People who are maladjusted and ineffective see themselves as unliked, and unwanted, and unacceptable, and unable, and undignified, and unworthy, you name it. We know that a positive view of self gives a person a great internal feeling of security that makes it possible for him to deal effectively with the world in which he's living. It gives him a great feeling of basic strength from which he can move to new things. It's like having a stout ship. When you're sure about your ship, you can go sailing far from shore, but when you're not so sure about your ship, then you have to stay close to harbor and you must play it very safe and you musn't take any chances. It's like that with a person's self-concept. A person who has a positive view of himself sees himself in ways that make it possible for him to make greater use of the world in which he's living, to be more creative, to be more intelligent, to be more responsible, to be more daring, to be less defensive.

You compare that line of thinking with the fact that there are thousands of people who believe that failure is good for kids. Usually this is some self-made man who beats his chest and says, "Look at me! what a tough time I had growing up; I made it, so my kids ought to have it tough, too." This man is a walking demonstration of the fact that failure is not good for people. He became a self-made man precisely because he didn't fail. Had he failed, he wouldn't be a self-made man!

One of the things we know about failure psychologically is that it is destructive to human personality, and failure psychologically is like disease physiologically. A disease physiologically is a failure of the physical organism. Now we do not say about physical failures, physical diseases, let's give this kid all the diseases we can as soon as possible. We say instead, let's keep him from getting a disease just as long as we possibly can, or let's give him the disease in such an attenuated form that we'll give him a success experience with it. That's what we do with an inoculation or immunization. We give him the disease in such a weakened form that we know he'll have a success

experience with it and then later on when the real thing comes along he is able to deal with that more effectively.

Self-Concept and Effective Helpers

We also know that the self-concept is related to professional competence. At the University of Florida for the last 14 years we have been doing research on the helping professions. We've done research on teachers of all varieties, on counselors, on nurses and on Episcopal priests, and we find out that the good helpers are always people who see themselves in essentially positive ways, and the poor ones are people who see themselves in negative ways.

A Law of Learning

We know, too, that the self-concept is something a person brings with him wherever he goes. When he comes to our classrooms, he doesn't park it at the door, he brings it right on inside with him, and whatever is happening in that classroom is affecting his self-concept as well as the content which he may be learning. And it may be that the self-concept, what he's learning about himself, is much more important than what he's learning about the content.

Now with all we know about the self-concept, we are still trying to behave as though it didn't exist. Some years ago I had an experience talking about learning to a college of agriculture, and a professor of agronomy said, "Well, that's all very well for you, Dr. Combs, to be concerned about the self-concept, but I don't have time to be concerned about those things; I have to teach agronomy." And I said to him, "You've done a lot of research on how things grow, and you know that in order to get proper growth of a plant you have to have a certain friability of the soil and you have to have a certain acid content, have to have certain organic matter and you have to have certain conditions of drainage, have to have certain conditions of ph values, certain kinds of microorganisms, certain kinds of trace elements and so on; you have found all that in your research. Now you wouldn't say to a farmer, 'We know all that but don't bother about it, just throw the seed on the ground and see what happens.'" The self-concept affects learning. This is a law of learning which we've found in our research. For a person to deny its use and deny its importance when he is trying to help somebody learn is like saying "I know my car needs a carburetor but I'm going to drive mine without one." None of us can overlook this question of self-concept, not in view of what we now know about its tremendous significance. We have to deal with it. You cannot set aside a law of learning because it is inconvenient. What can we do?

Deciding What's Important

I think the first thing we have to do is to decide it's important, because none of us ever does anything unless it's important. Let me tell you a little story related to this point. A beautiful young woman in the outskirts of Atlanta who was teaching first grade had a beautiful head of blonde hair which she was accustomed to wearing down to the middle of her back in a pony tail. She wore her hair that way the first three days of school and then on Thursday she decided to do it all up in a bun on top of her head, and one of the little boys in her first-grade class came and looked in the door and he didn't recognize his teacher. And so he was lost. School started, and there he was out in the corridor crying when the supervisor came along and said to him, "What's the trouble?" and he said, "I can't find my teacher." So the supervisor said, "Well, what's her name?" Well, he didn't know, so she said, "What room are you in?" He didn't know that either, so she said, "Well, come on, let's see if we can find her." They went down the hall, opening one door after another until finally they came to the room where this young woman was teaching. She turned and saw the supervisor and the little boy in the doorway and she said, "Why, Joey, it's so good to see you! We've been wondering where you were, come on in, we've missed you so," and the little boy pulled out of the supervisor's hands and threw himself into the teacher's arms. She gave him a hug, patted him on the fanny, and he ran on down to his seat.

When the supervisor finished telling me this story, she said, "Art, I said a prayer for that teacher, she knew what was important; she thought little boys were important." We started to play a game with this. We said, well, suppose she hadn't thought little boys were important, suppose she thought supervisors were important. In that case she would have said, "Why, good morning, Miss Jenkins, it's so good to see you, we've been hoping you would come and see us, haven't we boys and girls?" Or she might have thought the lesson was important and in that case she would have said, "Joey, where have you been, you're already two pages behind, come in here and get to work." Or she might have thought that the discipline was important and in that case she would have said, "Joey, you know very well when you're late, you must go down to the office and get a permit. Now run right on down there and get it." But she didn't. She behaved in terms of what she believed was important, and so do each of us. As the old Indian said, what you do speaks so loudly I cannot hear what you say.

So the first thing we have to do if we're going to be concerned about the self-concept is to decide it's important. In our research on good and poor helpers, one of the real differences we find is that the good helpers are always concerned with the people problems and the poor helpers are concerned with the things questions. The good helpers are always concerned with what's happening to people and their feelings and attitudes, and the poor helpers are always concerned about the machinery, the rules, the regulations.

Identifying and Paying Off on Good Humanistic Practice

One of the problems we have in creating schools that are concerned with people, however, is that humanistic objectives are general objectives. Because they're general objectives, they're generally ignored. The humanistic things are what everybody is supposed to be doing. But what we really do are the things we're going to be measured on. We tend to do the things that somebody is going to praise us for. So we evaluate the coach on how many games he won, and we evaluate the science teacher on how many people went to the science fair, and the teacher of first grade on how well the kids can read, and the English teacher on how many kids can write a poem. And nobody is asking any questions about how the teacher is affecting the person's feelings about himself. Paying attention to self-concept means that we're going to have to start identifying teachers who do a great job of helping kids to feel better about themselves, just as we now identify the people who teach science very well.

Providing Time To Plan

We also need to give teachers time to think about how to deal with these questions. Recently I've come across two school systems which simply fascinate me. One of them is in Maine where the superintendent has sold the community on the idea that the kids should come to school only four days a week. The fifth day is spent by the teachers in planning, in working, in figuring out things to do the other four days. A similar thing is going on in Albuquerque, New Mexico, where the school closes down at noon on Thursday of every week and they have a half a day in that school to think about how to improve the learning experience of children.

The Side Effects of Practice

We also need to recognize that anytime we do anything in the educational process, it has inevitable effects on the teacher and on the student. In the pharmaceutical industry, they spend millions of dollars trying to figure out the side effects of things, because if you've got a new cure for a headache and it causes people to go blind, that's not very good. In education we rarely do that, we rarely figure out what are the side effects of what we are doing. A good example of this is the whole behavioral objectives approach which tends to concentrate everybody's attention on picayune aspects of behavior. I teach a course on human growth and development. Now I suppose that in human growth and development there are probably thirty basic principles that people ought to know. The only trouble is I've got forty-five lectures and I've only got thirty principles, so what I can do is lecture on the details. You see, there are a million details. I can talk about them till the cows come home, and the students will hear me talking about the details, and they will write down all the details very carefully, and overlook the principles. I can also test them on the details and that spreads them

out very nicely on the good old normal curve so I can give them grades. And so what am I teaching? I am teaching students that it's the details that are important.

As another example, take the whole question of grades. Grading in my opinion is one of the worst things that ever happened to American education because of what it does to people's concepts and feelings about themselves. We believe that grades are so terribly important as a motivator, when everybody knows that they really don't motivate anybody except the day before the grades come out and the day after. We all think that they're so terribly important for evaluation, and everybody knows that no two teachers evaluate in the same way. Some teachers evaluate on how much growth did this kid make, other teachers evaluate on how much did he do, others evaluate on which side of the tracks did he come from, others on whether he was a good boy, and then after we know all that, we piously behave as though the grades meant something very important and stable and we fail to understand what it does to people and what effect it has on their self-concepts.

We have a new program in the education of elementary teachers at the University of Florida, and one of the things we have done is to eliminate grades entirely. When we did this, it changed the tenor of the whole program, as the students began to work in quite different ways when they no longer had to work for grades. I think also of what my son, a young architect, said one time when he was in architectural school. He said to me, "Dad, how can you put up with this grading system if you're such a hot-shot educator?" He talks to me like that sometimes--it's a way of putting me in my place. I said, "Well, what's the trouble?" He said, "Grading on a curve makes it to my advantage to destroy my friends." And then he said, "That's a hell of a thing to teach young people." You know, I hadn't thought of it that way, but it's true. A system of dog-eat-dog which makes it to my advantage to destroy or impede the progress of my friends is teaching something I am not sure we need in our society.

We know that there are three things that competition does. One is that competition is valuable as a motivation only for those people who think they can win; everybody else sits back and watches them beat their brains out. The second thing we know about competition is that when people are forced to compete and do not feel they have a chance of winning, the effect is not motivating, it is discouraging and disillusioning. The third thing we know is that when competition becomes too important, any means becomes justified to achieve the end. When it's too important to win the basketball game, the team uses its elbows, and when it's too important to win to get their wings, the Air Force cadets break into the offices and steal the examinations. So we need to be aware of the side effects of the things we do in education so we don't make the mistake of losing on the bananas what we made on the oranges.

Another example is the whole business of grade levels. Just

imagine the experience of a child who is reading at the third-grade level in the sixth grade who, every day of his life, hour after hour, day after day, week after week, month after month, is getting a failure experience because you and I haven't been able to figure out how to deal with a 12-year-old child who happens to be reading at the third-grade level. We are teaching him something about himself because of the way in which we've organized.

Taking a Positive View

Of course, it's not enough to try to avoid doing things which make people feel bad about themselves; we also have to do something positive to build up the self-concept of the children we work with. Now here I run into trouble, because one of the things we know from our research on effective helpers is that there is literally no such thing as a right method of counseling or teaching or Episcopal priesting or nursing. Effective helping has to do not so much with what you are doing as with the message that is conveyed by what you're doing.

One thing we found that clearly distinguishes between good helpers and poor helpers is what the helper believes about the persons he is working with. And one major factor is whether you believe people are able or unable. It makes a lot of difference which you believe. If you don't believe that people are able, you can't let them, you don't dare let them. Let's take that principle and use it to show why you can't tell the difference between good helpers and poor helpers on the basis of methods. Here are two teachers and they both believe the children are able. One of them who believes they are able makes them work real hard, and the message that gets through to the kids is, "He thinks I can." Here's another teacher who also believes the kids are able and she says, "That's an interesting idea, why don't you take off the rest of the afternoon and work on it by yourself?" And the message that gets through is "She thinks I can." Here are two vastly different methods but the important thing is not the method but the message that is conveyed. That is what we have to be concerned about.

Teaching for Positive Self-Concept

What else can teachers do? A very interesting experiment was done in Orlando where they were interested in seeing what could be done with the self-concept of children, especially in some of the deprived areas of the city. They got the teachers involved in looking at the self-concept and thinking about it and studying about it, and then they began a program of trying to get the teachers to take a look at themselves. One thing they did was to give the teacher a tape recorder with the instructions to turn it on for an hour any time they wanted to in the classroom and then take it home and chart their own behavior, chart the things they said during the day. What they found was that some teachers were running 11-to-one negative comments to

positive comments. Just helping the teachers to become aware of that made a difference. After a while teachers began to see if they could change that ratio to get more positive than negative comments. Some of them changed it over as far as 4-to-one, the other way around. And when they did that, all kinds of interesting things happened in that school. For one thing, most of the discipline problems evaporated. The teachers changed, too; there was less sick leave, they dressed better, they even shook hands with greater vigor as they began to deal more effectively with the problems that were going on in their classrooms.

Let me tell you a story about another school where I was asked to work. It was in a rural area where the teachers hadn't been back to school in a long time, and I thought, what can I do with these people, surely lecturing at them isn't going to do them any good. So I went out and sat in the library every Wednesday afternoon with these teachers and we talked about children, and as they talked about the kids I kept saying, you know I wonder how she feels about that, I wonder how he feels about that, I wonder how it seems from his point of view, till after a while the teachers began doing that too, they began asking that question.

Seeing How Others See

Now when you begin to ask how things look to the person you're working with, your behavior changes. Let's take an example. I remember one little girl we got a lot of information about, and in the process of this we began to understand that she felt that people didn't like her very well, that she wasn't very attractive, that she didn't have the right clothes to wear, and that she wasn't very successful in school. When these teachers began to understand that little girl and how she saw herself, automatically they found things to do. For example, Sally comes walking in the door of the school and one of the teachers sees her coming. Then, instead of just letting her pass by as would ordinarily happen, she walks up to her and says, "Sally, how are you, Honey, you look so nice today!" and walks down the hall with her arm around her, and Sally's whole world changes for the next 48 hours. Another teacher remembered that she had a couple of dresses that had been left there at her house last year by her nieces and they're just about Sally's size, so she arranged for Sally to come to do some work for her and gave her the dresses. In the home economics department they were talking about hairdos, and they needed somebody to demonstrate on, so they demonstrated on Sally. Because people saw her differently and understood how she felt about herself, they found their own ways of giving this child some positive experiences about herself.

Where We Look Makes All the Difference

Let me give you one other example of how differently you behave

when you begin to see how things look to the person you're working with and to be concerned about the person's self-concept. I learned this when I was director of clinical training at Syracuse years ago. We had a psychological clinic and when somebody came in with a problem, we'd hold a case conference and decide what needed to be done. Then we'd tell the mother what she needed to do. We found out that didn't work very well.

Later on we discovered that the best thing we could do to help a mother was to help her to understand her own child. Let me illustrate this. Here's a parent or teacher who is concerned about a child and what he's doing. He's doing terrible things. Now if you think that's the important thing, that something's got to be done about what he's doing, what kind of behavior does that call for in you? You're going to have to control it. You're going to have to reward it or punish it or somehow to manage the behavior so it stops, and of course that doesn't help the child's self-concept any. He already feels pretty bad about himself, and now you're going to land on him. That's not going to help him much. Now let's suppose that you understand this child in a different way, suppose you see how he sees himself in his world, and suppose you understand that he feels about himself that nobody likes him. I can remember doing that with mothers in our clinic. We would say, "You know, Mrs. Jones, it's an interesting thing when we were working with Jimmy back there in the playroom, he said several times that he thought people didn't like him very well." Now if you feel that the important thing is that that child feels that people don't like him very well, that calls for an entirely different approach to dealing with him, doesn't it? You have to help the child see himself as being more effective.

I remember something a teacher in Orlando used to do. She set a cake timer on her desk, set for every 20 minutes, and every 20 minutes it would go "ding," like that. The kids didn't pay any attention, but it was a signal to the teacher, and she would simply flick her eyes over the class in the next few seconds and ask herself, "Who hasn't had it yet?" During the next 20 minutes, she would find a way of giving some child a positive experience, by winking at him across the classroom, putting her hand on his shoulder, saying "That's great, Jimmy," spending a little time with him, something that gave him the feeling that he was recognized and understood and liked. As simple as that.

What I've been saying here is that we know that the effective behavior of healthy people, intelligent people, well-adjusted people, learning people, effective professional people, is a consequence of a positive view of self. Now if you know that, what you have to do to produce that positive self-concept is not so difficult. You have to ask yourself these kinds of questions: How can a child feel liked unless somebody likes him? How can a child feel he's acceptable unless somebody accepts him? And how can a child feel he's a person of dignity and integrity unless somebody treats him so? And how can a child feel able unless, somewhere, he has some success? The answers that you and I find to those questions will tell us what we need to do to help improve the self-concepts of children.

THE CHALLENGE OF WATERGATE TO AMERICAN SCHOOLS: FOSTERING THE MORAL DEVELOPMENT OF CHILDREN

Thomas Lickona

Project Change
State University of New York at Cortland

I had a psychology professor in graduate school who used to say that most education provides answers to questions that people don't have. I don't think that indictment holds for this morning's session, because you're not a captive audience and you presumably wouldn't be here if you didn't have questions about morality and education. Nevertheless, I'd like to begin by identifying what I think are four basic questions to ask when approaching the issue of moral education in the schools.

The first question is simply, Is there a need? Is there anything to worry about, any reason why we should be concerned about moral development in society? The second question is, Should teachers intervene? Even if there is a real need, is it the job of the schools to teach morality? Question number 3 is, What is "moral development"? Can you do anything about the problem or decide whether to get involved without first knowing what constitutes progress toward moral maturity? Finally, question 4: If you think that fostering moral development in the schools is necessary and legitimate, how do you go about it? How can you do it in a way that is educationally effective and ethically defensible in a pluralistic society?

Is There a Need?

Let's consider the first question: Is there a need? Someone asked Urie Bronfenbrenner yesterday, after his speech on his visit to China, whether he saw any social progress in this country. He replied that the times are still very difficult and it's easy to get discouraged, but that he finds there is a major difference now in the response he gets when he talks to different groups in the community. He said it used to be that when he went on about the problems of the society and how it's going to hell in a hand-basket, people would say, "I don't understand what you're saying, what's the problem, everything seems O.K. to me." He said now almost nobody says that, almost everybody agrees there's a problem, though people still differ greatly about how to solve it.

What are the dimensions of the problem? First of all, there's the issue of social injustice. We've had reports that 10 million American children are undernourished, some severely so. The estimates differ by a million or so, but we know that many millions of American

children are hungry and do not get enough food to keep them healthy. We know that 2 out of 3 poor children in the country have not seen a dentist. If you're sitting in school with a rotting tooth, there's not much you're going to learn. We know that more than 50% of poor children who have disabling handicaps get no medical treatment. We know that infant mortality among black children in the ghettos of Detroit is as high as it is among children in the poorest sections of India. We know that the federal government for many years paid Senator James Eastland $150,000 a year not to grow crops on his Mississippi plantation while the sharecroppers who were thereby deprived of work got welfare support of $35.00 a month for a family of four. We know that the problem of social injustice has global proportions. Rich nations consume most of the world's resources. More than half of humanity remains illiterate and hungry across the globe.

Crime continues to rise. It is increasing not only vertically but horizontally as well. Not long ago there was a rash of robberies in the schools of New York City, where armed men came into the classrooms of small children, 1st-graders, held up the teacher, and threatened to shoot the children or the teacher if she didn't turn over her jewels and purse. It used to be that thugs and villains were ashamed to do their dastardly deeds before little children; no longer.

We know that child abuse has reached drastic proportions in this country. Bronfenbrenner, when he spoke here two years ago, reported a study by Professor Gil at Brandeis that surveyed all kinds of child abuse--beatings, poisonings, locking kids up in the closet for days, holding their finger over a flame on a gas stove, cutting them with knives--all wounds deliberately inflicted. The number of cases in a single year was estimated to be between 2½ million and 4 million.

Those are some of the dimensions of the problem. You could also point to the loss of integrity in the society, the unwillingness or inability of persons to act on moral principles. To illustrate that point, I'd like to read you two sets of statements. Try to identify as you listen the source of each set. Here's the first:

> I carried out my orders.
>
> Where would we have been if everyone had thought things out in those days?
>
> With us an order was an order.
>
> The success of this man proved to me that I should subordinate myself to him.

Now the second set:

> I was there to follow orders, not to think.
>
> I believed he had the authority to do it.

I was not the one to stand up at a meeting and say that this should be stopped, in all honesty because of fear of group pressure that would ensue, of not being a team player.

You have no idea of my loyalty to this man.

Would anyone like to hasard a guess as to the source of these two sets of statements?--Could the first ones be from members of the Green Berets? That's a good guess. Is the second group from the proceedings of the Watergate hearings? That's correct. How about the first set? That's right--the first statements came from Adolph Eichman at his trial for the crimes he committed in Nazi Germany. It's pretty hard, isn't it, to distinguish the two sets.

During the Watergate hearings, William Sloan Coffin wrote a column in The New York Times about Jeb Magruder. Coffin knew Jeb as a friend when both were at Williams College in the 1950's, and even had him as a student in his ethics class. During that time at Williams, Coffin says, he worried about Jeb Magruder. He used to say to him, "You're a nice guy, Jeb, you have lots of charm but little inner strength, and if you don't come to stand for something you're apt to fall for anything." Coffin concludes his column by pointing out that to do evil deeds you don't have to be an evil person, only a nice guy who is not yet a good man. Adolf Eichman was probably kind to his children.

So, we know that the people in government haven't stood up very well, but what about the man in the street? Stanley Milgram studied the moral behavior of the man in the street in an experiment that you may be familiar with. He ran an ad in the New Haven newspaper that said he would pay $5 to anyone who would volunteer for an experiment on learning. He got volunteers from all walks of life and from all age levels. When they reported to the laboratory, they pulled straws from a hat, ostensibly to determine their role in the experiment. It was in fact rigged so that the people coming in off the streets would get to be the "teachers" and somebody from Milgram's laboratory staff would get to be the "learner."

The learner was then taken into the next room and strapped into a chair and electrodes attached to his wrists. The experimenter told the teacher, the naive subject, that the learner was to try to memorize paired associates, two words that went together, like "blue" and "girl." If the learner made a mistake, the teacher, seated in a different room, was to give him an electrical shock. On a panel before the teacher, the shock levels ranged from 15 to 450 volts in steps of 15 volts. The voltage levels were also labeled: from "slight shock" to "strong shock" up to "severe shock" and finally "XXX." The learner, whose responses were in fact pretaped, first complained about his discomfort, then screamed with pain, then pleaded to be released, then protested that he had a heart condition and couldn't stand it any longer, and finally fell silent.

How did the teachers respond? In most cases, they showed real conflict about obeying the experimenter's instructions. Milgram reports that subjects were observed to sweat, tremble, stutter, bite their lips, and dig their fingernails into their flesh. Three had convulsive fits of laughter.

Milgram asked psychiatrists and psychologists to predict what percentage of people would obey to the end and give 450 volts of shock. The experts predicted that fewer than 2% would give the highest intensity of shock, and that the 2% who would go all the way would be crazy or somehow disturbed. Does anyone know in fact what percentage of people obeyed to the last? Seventy per cent of Milgram's subjects gave the full 450 volts. That sobering outcome supports Jonathan Kozol's assertion that the problem with the schools is not that they aren't working, but that they are working all too well. They are producing moral conformists who will submit to authority, even commands to inflict harsh physical pain on innocent victims.

Okay, you might say, people can't stand up under pressure, they have weak spines and they buckle when the going gets tough, but what about the compassion of the average person? Wouldn't he help somebody out when the person was in need? Recall the long depressing catalogue of newspaper reports on just this question. Let me read you a few.

> Kitty Genovese is set upon by a maniac as she returns home from work at 3:00 a.m. Thirty-eight of her neighbors in Kew Gardens come to their windows when she cries out in terror; none comes to her assistance even though her stalker takes over half an hour to murder her. No one even so much as calls the police. She dies.
>
> Andrew Morsille is stabbed in the stomach as he rides the A train home to Manhattan. Eleven other riders watch the 17-year-old boy as he bleeds to death; none come to his assistance even though his attackers have left the car. He dies.
>
> An 18-year-old switchboard operator, alone in her office in the Bronx, is raped and beaten. Escaping momentarily, she runs naked and bleeding to the street, screaming for help. A crowd of 40 passersby gathers and watches as, in broad daylight, the rapist tries to drag her back upstairs; no one interferes.
>
> Eleanor Bradley trips and breaks her leg while shopping on Fifth Avenue. Dazed and shocked, she calls for help, but the hurrying stream of executives and shoppers simply parts and flows past.

> Carmen Colon, age 10, is kidnapped by a rapist-killer while on a shopping errand for her mother. She temporarily escapes from her assailant along a busy expressway near Rochester, New York. Half-clad and obviously distraught, she appeals for help to more than a hundred motorists, all of whom pass her by. She is murdered.

That's some indication of how the man in the street has behaved in the face of a fellow human being in need of help. What about people who supposedly make a profession out of being Good Samaritans? How do they perform when confronted with a similar situation? To find out, two psychologists asked Princeton seminarians to write a sermon on the Good Samaritan parable which they were to deliver to an audience of faculty and peers. While walking across campus to the lecture hall, each seminarian came across a person slumped in an alleyway. This person, in reality an actor, coughed and groaned in distress. What did the seminarians do? Twenty-four of the 40 simply passed by. The experimenters noted: "Seminary students going to give their talk on the parable of the Good Samaritan literally stepped over the victim as they hurried on their way."

Should the Schools Get Involved?

We can agree, then, that there's a problem. But where do we go from there? Does it mean that schools should get into the act? Should you as teachers get involved?

I'd like to answer that question by pointing out that you are already involved. Day in and day out, you act as moral educators with your children. You continually evaluate their behavior; you monitor their social relations in the classroom, and you do this as part of a larger social context called the school that also has rules and makes evaluations of behavior. Lawrence Kohlberg tells a story about his 2nd-grade son. One day he came home from school and said, "Dad, I don't want to be one of the bad boys in school." Kohlberg asked him, "Well, who are the bad boys?" His son said, "The bad boys are the ones who don't put their books back where they belong." Kohlberg comments that the teacher probably would have been surprised to know that relatively minor classroom management concerns defined for her children what she and the school thought were basic moral values.

We could all cite many more examples of the moral lessons that schools teach children. Most children go to schools where they must compete with their fellow student, where they rarely if ever engage in learning that requires cooperation, where helping another individual is usually defined as cheating. Most kids go to schools where the rules are laid down by authority, where the students never have a chance to participate in making, revising, or enforcing rules, where they are expected to obey the adults in charge without question. And then when they graduate from school they are expected to think for themselves.

What Is Moral Development?

Let's assume, then, that there is no way to avoid moral education in the schools. It's part of the hidden curriculum. But should teachers go at it directly, full steam ahead? That brings us to the next question: What is moral maturity or moral development? If you're going to educate for moral development, then obviously you need some idea of what moral development is.

To illustrate one way of defining moral development, I'm going to give you a moral dilemma that Lawrence Kohlberg has made well-known through his research in this area. A moral dilemma is a hard question; you can debate it, there's no culturally conditioned response to it, and that is why it's a good way to find out how someone really thinks.

> In Europe a woman was near death from a special kind of cancer. Doctors told her husband, Heinz, that there was one drug that might save her. It was a form of radium that the town druggist had recently discovered. But he was charging $2,000 for a small dose of the radium. Heinz, despite his best efforts, could raise only $1,000. He pleaded with the druggist to tell it to him cheaper and let him pay the rest later, but the druggist said, "No, I discovered the drug and I'm going to make money from it." So in desperation Heinz broke into the store and stole the drug.

In 1958 Kohlberg presented these and other moral dilemmas to 75 boys ranging in age from 10-16. In interviewing these subjects over the next 16 years, he found that there were sequential stages in the way they analysed moral issues, a changing pattern in the way they reasoned, for example, about what Heinz should or shouldn't have done.

The six stages which Kohlberg identified are indicated in the staircase diagram (Figure 1). I'd like you, taking the Heinz dilemma, to try to construct examples of the different stages, especially of the first three stages. Most children, under the right environmental conditions, can develop at least some Stage 3 reasoning by the time they are in 6th grade; you can take that as a developmental goal for moral education in the elementary school.

At Stage 1, might makes right. In the child's view, the people in power--parents, teachers and other adult authorities--determine what's right and what's wrong. The moral motive at Stage 1 is to stay out of trouble, either by doing what you're told or by making sure you don't get caught when you do step out of line. What would be an example of a Stage 1 reason why Heinz should not steal the drug? He might get caught and have to go to jail. Now turn it around: what's a Stage 1 reason <u>for</u> stealing the drug? He might get in trouble if he doesn't steal it; his wife's brother might find out

Figure 1: Kohlberg's DEVELOPMENTAL STAGES OF MORAL REASONING

POSTCONVENTIONAL STAGES

(Concern for fidelity to self-chosen moral principles)

Stages 5 and 6

Motivator: Internal commitment to principles of "conscience": respect for the rights, life, and dignity of all persons.
Awareness: Moral/social rules are social contracts arrived at through reconciliation of differing viewpoints, open to change.
Assumption: Moral principles are "right" regardless of external consequences; law derives from morality, not vice versa.

CONVENTIONAL STAGES

(Concern for meeting external social expectations)

Stage 4

Motivator: Sense of duty or obligation to live up to socially defined role and maintain existing social order.
Awareness: There is a larger social "system" that regulates the behavior of individuals within it.
Assumption: Authority or the social order is the source of morality.

Stage 3

Motivator: Desire for social approval by living up to good boy/good girl stereotype, meeting expectations of others.
Awareness: Need to consider intentions and feelings of others; cooperation means ideal reciprocity (GOLDEN RULE).
Assumption: Good behavior = social conformity.

PRECONVENTIONAL STAGES

(Concern for external concrete consequences to self)

Stage 2

Motivator: Self-interest, what's-in-it-for-me; do "what's natural."
Awareness: Human relations are governed by concrete reciprocity: let's make a deal, "you scratch my back, I'll scratch yours."
Assumption: Have to look out for self; you're obligated only to those who help you; each person has own needs and viewpoint.

Stage 1

Motivator: Fear of getting caught, desire to avoid punishment by authority.
Awareness: There are rules and consequences of breaking them.
Assumption: Might makes right; what's rewarded by those in power is "good," what's punished is "bad."

that Heinz let her die and come and beat him up. Do you see the distinction between the content of the answer and the reasoning behind it? Content can vary while the reasoning remains the same.

What is a Stage 2 reason for stealing the drug? He loves his wife. I'd have to ask you what you mean by love; why is that a good reason for Heinz to try to save his wife's life? Because she cooks and cleans for him--that's a Stage 2 reason and is in fact what some juvenile delinquents have said when given this dilemma. Stage 2, with its focus on self-interest, might seem like a regression to you. But it's really a step forward because at Stage 2 children are beginning to realize that morality doesn't come in cans; it has something to do with human needs. When that awareness begins to emerge, it's natural for the child to think first about his own needs. Even at Stage 2, though, there is a limited kind of altruism, a concrete reciprocity--you do something for me and I'll do something for you. If Heinz saves his wife now, maybe she'll help him out if he's ever in a similar boat, or maybe he's obligated to steal the drug for her because of all that she's done for him in the past.

Kohlberg calls Stages 1 and 2 "preconventional" moral reasoning because morality is not yet governed by conventional norms or social expectations; rather it is governed primarily by what the individual thinks will be the concrete consequences for himself.

Stage 3 is a big leap forward. It takes the individual from concern about his or her own needs to a much broader concern about the needs and expectations of other people. The Stage 3 person wants to be nice, to please others. Kohlberg calls this orientation "Charlie Brown" morality to indicate both its virtues and its limitations.

Can you give me a Stage 3 reason why Heinz should steal the drug? His friends would criticize him if he didn't. What would people think of him if he let his wife die? When you reach a Stage 3 concern about the welfare of others, you also develop a concern for their opinion of you--you value their esteem. What if Heinz's wife hadn't been so good to him? Stage 2 might say, well, then don't help her. Stage 3, however, would say she needs the help, never mind what's gone before, put yourself in her shoes. The golden rule. To find out whether your children understand this Stage 3 principle, ask them sometime what the golden rule tells you to do if someone just comes up on the street and punches you in the arm. Most 10-year-olds, still predominantly Stage 2, will say, "Hit him back. Do unto others as they do unto you." An unusually mature 10-year-old said to Piaget, "You shouldn't hit back. There's no end to revenge." That's Stage 3.

I've given you just a bare-bones description of the stages. People go to Harvard for a year to study how to identify someone's stage of moral reasoning, and Kohlberg and his associates are continually redefining the stages on the basis of their ongoing research and new developments in the theory. To put a little more meat on the skeleton, let me share with you a story or two about my own son, Mark, who will

be 7 years old tomorrow. We were walking across campus one day about 6 months ago, and I mentioned that I was going to give a talk that afternoon to a group of men, the Cortland Rotary, about how children grow up to know the what's right and what's wrong. He said, "Well, I have something to say about that." "Okay," I said, "what do you think is right for children to do?"

Mark replied, "Children should be good to their parents, and parents should be good to their children--that's the way they get along."

"That's very interesting," I said, "tell me, why do you think children shouldn't disobey their parents?"

"Well," Mark said, "if they disobey their parents, then parents won't do nice things for them."

So I said, "Suppose one day Mom and I weren't very nice to you--you asked if you could have a new Richie Rich comic book, and we just said no without any good reason. Then later in the day, because we were going to have company, we asked you to do us a favor, like vacuuming the rug. Do you think you should do it for us?"

Mark said without hesitation, "Well, no,--because you weren't nice to me. Sorry, Dad, but that's just the way it works, you see." A solid Stage 2.

Let me relate another conversation which illustrates that children, like most adults, are in different developmental stages at the same time. I asked Mark the question about what you should do if someone comes up and punches you in the arm. He said, "Well, I can tell you a right answer and a wrong answer. The right answer is you should ask him please not to punch you again."

"What's the wrong answer?" I asked.

"You should hit him back."

Probing further, I asked, "Why do you think hitting back is wrong?"

"It's really right and wrong," Mark said. "It's right because then he will know how it feels, and it's wrong because you could get in trouble with your parents."

I'll leave it to you to sort out the different stages of thinking that are represented there.

This morning I decided to do a little longitudinal research. I wondered how Mark would respond, a half a year later, to the moral question of what to do when his parents ask him to vacuum the rug after they have unreasonably refused a request for a new comic book. I began by asking what it means to be good. He said, "Being good means being kind to others"--ah, I thought, the dawn of Stage 3. Then he

added "...when they're kind to you." I then raised the dilemma about whether to vacuum the rug. He paused for a while, then said, "I think I should vacuum the rug. It would be a good way of earning the new comic book."

That's turning the situation into a Stage 2 deal, of course, so I said, "No, we wouldn't pay you any allowance, this is a favor we're asking."

After pausing again, he said, "Well, I'd still do it."

"Even though," I reminded, "we weren't nice to you and wouldn't get you the comic when you asked?"

"I would still do it," he said, "I just like doing favors for people."

"Why do you like doing favors for people?" I asked.

"Because then they don't have to do all the work themselves."

"Why is that important?"

"Well," Mark said, "if they can do only part of the job, how can they get it done if they don't have help?"

That seems to me to be the beginning of a Stage 3 concern for the needs of the other person, apart from what's in it for you. I hasten to testify as a parent that crossing the bridge from reasoning to consistent behavioral practice is a big developmental step in itself which by no means automatically follows the achievement of the reasoning. Mark at age 7 may be capable of some Stage 3 reasoning, but his behavior is often not even at the level of Stage 2 reciprocity. Closing the gap between reasoning and action becomes a major issue when you consider applying Kohlberg's theory to practical life situations like the classroom, where behavior really matters.

What lies beyond Stage 3? At Stage 4, concern for others is expanded to a wider scale. You begin to have a concept of society and your role within a larger social system; you want to do your duty, to set a good example, to insist that other people do, too. This is still a morality shaped by external expectations, however. Not until Stages 5, and 6 can you stand outside the social framework and say that some things are morally wrong in the system; some laws or institutions need changing in order to better respect the rights of individuals. You may even believe at Stage 6, as Martin Luther King did, that justice requires you to disobey a law like segregation that degrades human personality, in order to arouse the conscience of the community. At Stages 5 and 6--which Kohlberg calls the postconventional level--universal moral principles define right and wrong. That's what we told the Nazis at the end of World War II: that they had an obligation to universal moral laws respecting human life and dignity, not simply to the laws of the German state.

What Does the Research Show?

What does the research show regarding Kohlberg's stages of moral reasoning? It appears to indicate, first of all, that the stages are universal--although there are those who think that all the evidence isn't in. Kohlberg claims that his cross-cultural research in countries like Taiwan, England, Turkey, Mexico, and the United States reveals that <u>what</u> people value may be relative to culture, but <u>how they reason about</u> what they value goes through the same sequence of stages everywhere. The research does show clearly that some people move faster through the stage sequence and some go farther. Only 25% of adults in Western societies, for example, reach postconventional reasoning.

Is moral stage development affected by social class? The evidence is that children from middle or upper socioeconomic environments advance through the stages more quickly than their peers at lower socioeconomic levels. Are there sex differences? Girls get to Stage 3 faster before boys, but then boys typically catch up and move on to Stage 4 before girls and are more likely to make it in adulthood to postconventional morality--though this last difference disappears if level of education is the same. Does moral stage relate to moral behavior? Kohlberg is careful to point out that the same moral behavior--e.g., doing someone a favor--can spring from different stages of moral reasoning. Despite that complicating factor, it has often been possible to predict moral behavior in particular situations from knowledge of a person's stage of moral reasoning. Conventional-level students, for example, are more likely to cheat when left undetected than postconventional students. Persons at Stage 5 and 6 were more likely to quit Milgram's shock-the-learner experiment than persons at lower stages and were also more likely to intervene to help a person in distress in another study where such intervention ran the risk of angering the experimenter. In the latter study, the subject had to decide whether to aid a person who said he had just had a bad trip on drugs and pleaded for help, or to continue to participate in the experiment as planned. Only 11% of the Stage 2 college students helped the distressed individual; at Stage 3, 27% helped, and at Stage 4, 38%. At Stage 5, the figure rose to 68%, and at Stage 6 fully 100% of the subjects broke off from the experiment to help the person in need.

What kind of environment facilitates movement through the stages and what kind of environment hinders it? Children who grow up in a socially sterile orphanage, Kohlberg reports, are often still at Stages 1 and 2 even in late adolescence. By contrast, children who grow up on the Israeli kibbutz, where intense peer-group interaction, group decision-making, and intermeshing work responsibilities make for a rich social environment, typically reach Stage 4 or 5 in adolescence.

How Do You Educate for Moral Development?

What do the contrasting effects of the orphanage and the kibbutz imply for the school? How can classrooms support development through

the moral stages? One way is to structure situations which, like the kibbutz, provide lots of opportunity for role-taking--for experiencing the contrasting viewpoints and feelings of others. Moral development can be considered a process of getting better and better at dealing simultaneously and fairly with a variety of conflicting perspectives on what is right in a particular situation.

You are no doubt familiar with commercially available materials for stimulating group discussion designed to share feelings and clarify values. I don't like to emphasize a prepackaged approach because it tends to compartmentalize moral education as something you do on Thursday afternoon when you get out the DUSO kit. The real moral curriculum is the total life of the classroom, all the human interactions that occur there. Teachers who appreciate that, however, can use some of the published techniques to advantage.

One material that I've used myself with to get discussions going with children is a series of sound filmstrips developed by Kohlberg and Bob Selman for Guidance Associates (Pleasantville, N.Y.) The filmstrips do a good job of bringing moral conflict down to the scale of the child's world. Some present real-life scenarios: should Holly climb a tree to rescue a stranded kitten for a little boy, or should she keep her newly made promise to her father not to climb any more trees? Some filmstrips depict fantasy situations; my favorite among these is about Cheetah, a member of the Cat People. The Cat People are endowed with special powers, which they use to fight crime. In ordinary life, Cheetah is Sam Wilson. In the filmstrip, Cheetah is shown swearing an oath before the Cat People never to reveal his secret identity--"not to my wife, not to my son, not to anyone. They shall know me only as Sam Wilson--husband, father, schoolteacher, and average human being." This is the most important rule of the Cat People, their leader explains, because if the criminals know who they are, the Cat People will not be effective in fighting crime.

One day Sam tells his 9-year-old son, Marcus, to meet him later that evening at the bank, where Sam says he will withdraw money to buy a new car. Sam arrives before Marcus, and notices a light on in the upstairs bank window. "Hmmm," he says, as the drums begin to roll, "This looks like a job for Cheetah!" Cheetah captures the crooks, strings them up in a net, and quickly changes back into Sam Wilson. Seconds later, the police arrive on the scene and escort the thieves out the front of the bank. At this moment young Marcus also arrives to see the criminals being apprehended and notices what appears to be another robber escaping out the rear bank window. He moves closer; "Dad, it's you! What were you doing in the bank, Dad? Tell me, are you one of the bank robbers? Tell me, Dad, please tell me!" Sam looks down and says softly, "I can't tell you, son, I just can't tell you." The narrator's voice then comes in: "Will Sam Wilson break the most important rule of the Cat People and reveal his secret identity, or will he remain silent and let his son think that he is a bank robber? What should he do?"

The object is to get the children to say why they think Sam should or shouldn't tell--to explain their reasons and listen to the reasons of others. It takes practice to get the knack of asking good probe questions that draw out the children's underlying reasoning and keep the discussion focused on the relevant moral issues. A normal first response with both kids and adults is to want to slip out of the dilemma--by proposing a solution that avoids the hard decision. "He should just tell Marcus to trust him," is a common way of wiggling off the horns of the Cheetah dilemma. You can take time to explore different solutions of this nature and then bring the children back to the conflict: "Sam tells Marcus to trust him, and Marcus tries very hard to do that, but he just can't get it out of his mind, he has bad dreams, and he still wonders, what was his Dad doing in the bank, could he be one of the robbers?" You can point out that juries often convict people on the basis of what witnesses say they saw; how can you expect a young boy to forget the sight of his father hurrying out the back of the bank at the scene of the robbery?

With one third-grade class that turned out to be unanimously in favor of Cheetah's keeping his oath, I role-played Marcus to dramatize what he would be feeling and to get the kids to think about other ways of looking at the problem. "Cheetah promised never to tell," they said. "That's an interesting reason," I said, "tell me, do you think it is ever right to break a promise? Did any of you ever break a promise?" Most admitted to having done so, and we got into a good discussion of the reasons for breaking promises and making them in the first place. We moved on to other issues, such as whether Cheetah had a responsibility to keep fighting crime, and after 45 minutes the kids were still going strong.

There are lots of formats other than whole-class discussion that you can use--role-playing, team debate, small "buzz groups." One format--called "Take a Stand"--was devised by a 6th grader in collaboration with the school psychologist. Five lines are chalked or taped on the floor and labeled, respectively, "Absolutely right," "Somewhat Right," "Undecided," "Somewhat wrong," and "Absolutely wrong." The children are then read a story; for example:

> A boy--a pusher--came up to his friend and said, "Do you want a joint?" He replied, "No way!" and ran to get a policeman. The cop busted the pusher for selling drugs.

At the signal "Move!" the children go and stand on the line that shows what they think about the main character's action--with the understanding that they have to explain why they moved where they did. They are free to change lines, but only if they state their reasons for doing so.

Let me emphasize again, however, that games and contrived discussions are not enough. To foster a consistently high quality of communication, you need to create a positive moral climate in the classroom, an atmosphere of mutual respect and support that pervades the curriculum

and the whole human environment. A tall order, you're thinking. How can it be done?

Cooperative Learning

Several teachers I know create a positive moral climate by making cooperative learning a natural part of the day-to-day life of their classroom. At its best, cooperative learning is what Piaget calls co-operation: doing operations together in a way that forces children to decenter from their own viewpoint and accommodate to the viewpoint and actions of their co-workers. Here is how a teacher of a combined 2nd and 3rd-grade, Ann Caren of West Hill Elementary School in Ithaca, New York, describes this kind of learning in her classroom:

> One activity which involved every child in the class at some point was the Fireplace Project. We decided together that we wanted to build a fireplace on the school playground for cooking lunch outside and for doing other activities which need heat (such as maple sugaring and making dyes from natural materials). After deciding on a size for the fireplace, the children collected rocks from a nearby woods. They mixed the cement--recruiting the principal to help with this--cemented the rocks in place, and finished the job with a grate that one group had purchased from a local store. Some children used the fireplace to dye yarn, while another group began to plan a cook-out lunch for the class. The outdoor lunch involved planning what we would have, figuring out the cost, getting volunteers for jobs, buying and preparing the food, building the fire, and serving and cleaning up.
>
> Cooking is available in my classroom whenever children express the interest, and I have found it an especially good way to involve them in sharing real responsibility.
>
> * * *
>
> A month-long activity, entirely initiated and sustained by the children, was the Dinosaur Project. One boy brought a bag of plastic dinosaurs to school and decided to set up a scene. Other boys soon contributed their dinosaurs. Questions arose: where did dinosaurs live? After looking this up in books, the children set up one ice-age environment and one woodland and field environment with a large body of water. For materials they used twigs, rocks, grasses, and sand gathered from the school grounds. The children made charts illustrating different ages, and did many dinosaur drawings and paintings. Endless discussions took place about which dinosaurs were the oldest and where the various types lived.

This teacher has also found a class newspaper to be an excellent way to foster cooperative effort and group cohesion. In addition, she

recommends stocking the environment with materials--blocks, lincoln logs, lego, animals, plants, clay, scrap materials, and plenty of paper and pencils--that naturally stimulate children to work together on activities that are meaningful to them. Craft activities are especially good; one boy learned how to macrame and taught other children how to do it for three straight days.

John Caren, Ann's husband and a teacher of a 5th and 6th-grade in Henry St. John School, describes a learning activity he carried out which illustrates how the teacher can take the initiative.

> This project involved creative writing and was called "Interesting Faces of Ithaca." Eight children and a teacher set out for downtown Ithaca--equipped with a polaroid camera. Each child took a turn photographing someone on the streets of the city. The pictures varied: some were distant shots of people going about their daily routine; others were close-ups of individuals that the children stopped and asked to pose for them. After taking their pictures, the children returned to school to write about them. The pictures and stories were then laminated and made into a book which was available for all of the class to read.

The Class Meeting

Both of these teachers also rely heavily on class meetings to foster a strong sense of community among their children--perhaps the most important ingredient in a good moral climate. A time is set aside--typically 20 minutes at the end of the morning and again at the end of the afternoon--when children share what they have worked on, plan a project, discuss an experience they have had together or personal experiences from home, or exchange views about how to solve a problem that has arisen. Every teacher I know who has worked at developing this kind of regular communication among his or her children reports marked improvement in the general tone and human relationships in the classroom. The class meeting also provides the cohesion and the caring that are the basis for dealing with any crisis that may arise. A teacher at a recent conference on moral education told a story about a year when she taught a combined 2nd-and-3rd grade and for the first time made a class meeting an integral part of her day. A strong class spirit developed and behavior problems were far fewer than during the previous year. Then one day, toward the end of the school year, a project that several children had worked on in the back of the classroom was found badly damaged. The teacher stopped the activity of the class and called a meeting. "We have good times together and we have problems together," she said. "Something very serious has happened. We cannot continue our work until we find out who is responsible for what happened and the damage is somehow repaired. This is a chance to show if we really care about each other."

There was awkward silence. Then one student spoke up: "Come on, whoever did it, tell--it's okay, we'll forgive you!" A chorus of

similar appeals went up from the children. Finally, two boys slowly stood up, looking at their feet.

"Yes, Tommy, do you wish to say something?"

"Bob did it."

The teacher waited.

"I did it, too."

"Would you like to say anything else?"

"Yeah. I'm sorry."

The other children leaped to their feet and hugged the two culprits in joyous celebration of the confession. There followed an animated discussion to plan how all could work to restore the damaged project. The teacher of this class said she was certain this crisis could not have been resolved in this way had it not been for the strong sense of community the children had built up through their class meetings all year long.

Respect for Persons

You can also define a good moral climate in terms of respect for persons. Morality really comes down to this--to respect for the dignity, the worth, the individuality, the rights of every person. How do you develop this among children?

One obvious way is to set a good example. This becomes hardest to do in the face of conflict with a child, especially if the student has acted without respect for you as a person. I recently came across two stories, each about an incident in which a student called the teacher an obscene name. In one case, a 2nd-grade boy called his teacher a "son-of-a-bitchin whore." The teacher marched him down to the principal's office and demanded that he be expelled, and he was. It's not hard to figure out what stage of moral development was thereby reinforced for that child.

In the second incident, reported in Haim Ginott's excellent little book Teacher and Child, a 5th-grade boy was asked by his teacher why he persisted in talking out of turn. "None of your business, you mother fucker!" was his reply. The teacher answered sternly, "What you have just said makes me so angry that I feel I cannot talk to you." The boy, obviously surprised at not being punished, came up after class and apoligised for his behavior.

To punish a child, as Ginott points out, is to arouse resentment and make him uneducable. The essence of discipline is finding effective alternatives to punishment--alternatives which leave the child's dignity intact, teach him how he has violated another's rights, and motivate him to do better.

Respecting children's rights and dignity as persons may also mean changing the way you speak to them. When Mark was 4 years old, he began issuing regular commands to his mother and me: "Daddy, read me a story," "Mommy, fix my dinner," get me this, get me that. We sat him down for a moral lecture on the virtues of saying "please," "I would like..." etc. Then the next day, during the morning hassle of getting him off to nursery school, I said, "Mark, get in the bathroom and brush your teeth and wash your face!" He took two steps, turned around, and said very seriously, "Daddy, I don't like getting orders either." Hoisted by my own petard, I negotiated a bargain: I wouldn't give him orders and he wouldn't give us orders. (You can still state the requirements of the situation: "Mark, it's 8:00 and your teeth are not yet brushed.") Piaget says that adults, because they use their authority in a unilateral fashion, often retard a child's growth toward understanding the mutuality of moral requirements. But he adds that adults can have an enormous positive influence on the child's moral development if they will place themselves on an equal-to-equal footing and stress mutual obligation with regard to at least some rules.

You can do the same thing in the classroom. A spirit of fairness will not only develop the child's understanding of the basis for moral rules, but will also motivate him to follow them. As Glasser points out in his book, Schools Without Failure, children are much more likely to adhere to rules that they accept as fair and that they have at least some say in formulating or revising. Moreover, when a child consents to a rule as fair and agrees to follow it, he is much more likely to accept responsibility for improving his conduct when a rule violation is brought to his attention.

Setting a good example for children may sometimes mean providing very direct, explicit cues in particular situations. Sometimes children simply don't know how to speak or act with respect for each other; they need the tools, the behavioral skills. A 2nd-grade teacher in Skaneateles, Peggy Manring, recounts what she did when the children in her room lapsed into using violence to express their feelings and to try to get their way.

> We had had a rash of fist fights, pencil jabbings, and kickings. Awareness of these behaviors didn't seem to decrease them; it only increased tattling. A few of the children said they had tried talking things out instead of fighting, but it didn't work...
>
> I brought in a bag of wood scraps from the toy factory. There were cubes, rectangles, wedges, and slivers. I dumped these on the rug within everyone's reach and asked the children to make a model of the classroom as they saw it. As fascinated as I was with their creativity and observations, I tried to concern myself primarily with their cooperation skills when these became a problem.

Here is an excerpt from the dialogue that took place between this teacher and the children:

David: That is the dumbest chalkboard, Martha. You put it in a stupid place.

Me, to David: You think Martha should put the block in a different place. Would you like to suggest to her where she might put it?

David: Yeah, right there, the chalkboard is behind the table!

Me, to Martha: If you accept David's suggestion, you may move your block. If you like it where you put it, you may leave it right there.

Me, to David: When you don't use the words "stupid" and "dumb," people like to listen to you. You had an interesting point to make about the chalkboard.

Martha moved the block, smiled at David, and the next time David wanted to say something, he said, "Paul, I suggest you look where the art table is. It's parallel to the teacher's desk." Paul picked up on the "I suggest"; so did Eddy and Alan--all three volatile kids. All 18 children seemed to be stretching to cooperate. Several said, "You know, Mrs. Manring, we've been trying to cooperate for 18 turns" and "It feels pretty good here, even though we're having a little trouble."

After 30 minutes and many compliments from me, the children parted to play in groups of 2's, 3's, and one group of 4. They built amazing cities, parks and buildings. I stayed to keep my finger on a few pulses. Some rejection and a few tears, but no one gave up.

The kind of direct intervention this teacher did can teach children the skills they need to enter into the positive social interactions that foster development through the moral stages. How this can also be done at the secondary level is illustrated by the work of Norm Sprinthall and Lois Erickson at the University of Minnesota. In a high school course on "The Psychology of Counseling," for example, they taught their students counseling techniques and listening skills which the students used with each other to discuss personally meaningful issues in their lives. In another course on "The Psychology of Growth for Women," female students learned interviewing skills and conducted field interviews of girls and women across the life span. They then discussed what their data showed about how women change in what they value and how they view their roles. Students in these courses showed significantly greater advance on Kohlberg's stages than students who did not have these experiences.

So there are ways of doing the job if you want to get it done. The problem with the schools, and society as a whole, is that morality

has been on the back burner. If we've got Watergates, we shouldn't be surprised. Education for moral development has to be at least as important in the curriculum as education for the intellect.

Moral education in the schools obviously won't solve all of our social problems. But no one knows how much the schools can do to develop moral maturity, for they have barely begun to try. The first step, of course, is deciding that it is the job of the school to help develop good people who can build a good and decent society. I hope that all of you will leave today with a commitment to bringing us closer to that goal with your children in your classroom.

RECOMMENDED READINGS IN MORAL DEVELOPMENT AND MORAL EDUCATION

Beck, Clive. Moral Education in the schools. Ontario Institute for Studies in Education, 252 Bloor St. West, Toronto 5, Ontario.

Short useful overview with relevance for all levels. Includes description of "a series of mini-courses in values," "some hints on teaching methodology," and "a theory of values for the schools."

Brearly, Molly. The teaching of young children: Some applications of Piaget's learning theory. New York: Schocken Books, 1970.

Finest book I know on developing a child-centered pre-school and elementary curriculum. Includes a sensitive chapter on the development of morality in children.

Beck, C.M., Crittenden, Brian, and Sullivan, Ed (Eds.) Moral education: Interdisciplinary approaches. Toronto: University of Toronto Press, 1971.

Proceedings of 1968 Ontario Conference on Moral Education; contains many excellent papers by leading scholars in the field, including Lawrence Kohlberg, and an exchange of views among the participants on a wide range of issues.

Chesler, Mark & Fox, Robert. Role playing methods in the classroom. Chicago: Science Research Associates (259 East Erie Street, Chicago, Ill. 60611).

Plenty of practical techniques for using role-playing in the classroom.

First Things: Values. Pleasantville, New York: Guidance Associates, 1971.

A series of sound-filmstrips, based on Kohlberg's developmental approach; presents moral dilemmas appropriate for elementary school children.

First Things: Social Reasoning. Guidance Associates, 1974.

Sound-filmstrips that focus on developing children's understanding of other persons' viewpoints, feelings, and motivation. Complements First Things: Values.

Ginott, Haim. Between parent and child. New York: Avon Books, 1969.

Wisest book I know on childrearing. Lots of examples of how to talk with kids, how to handle a wide variety of everyday problems in a way that respects the child's dignity as a person and motivates cooperation.

RECOMMENDED READINGS (cont.)

Ginott, Haim. Teacher and child. New York: MacMillan Co., 1972.

How to handle discipline problems and communicate effectively with children in the classroom. Would highly recommend to any teacher; a wonderfully human and practical book--helpful for establishing a moral climate of mutual respect.

Glasser, William. Schools without failure. New York: Harper & Rowe, 1969.

If you want to incorporate a class meeting into your program, this is the book to read.

Johnson, David and Johnson, Roger. Learning together and alone. Englewood Cliffs, New Jersey: Prentice-Hall, 1975.

Written by two social psychologists, this is one of the few books that provides specific suggestions for structuring cooperative learning in the classroom.

Journal of Moral Education. Published by Pemberton, Ltd., 88 Islington High Street, London N1 8EN ($7.50 for 3 issues a year)

Lots of articles, both theoretical and practical, on moral education here and in England, at all different age levels. Only journal of its kind.

Kohlberg, Lawrence and Turiel, Elliot. Moral development and moral education. Chapter in G. Lesser (Ed.), Psychology and educational practice. Glenview, Ill.: Scott Foresman, 1971.

Best available overview of different approaches to values education, including the developmental stage approach of Kohlberg. Discusses what the research on moral development shows and applications to education. An essential foundation for this area.

Lickona, Thomas. A strategy for teaching values. Pleasantville, New York: Guidance Associates, 1971.

Teacher's guide explaining how to stimulate class discussions using the Guidance Associates dilemma filmstrips; includes section on how to question children about their thinking regarding value conflicts.

Lickona, Thomas. Moral development and behavior: Theory, research, and social issues. New York: Holt, Rinehart, & Winston (383 Madison Avenue), 1976 (January).

A good resource if you want to study this area in greater depth. 20 chapters by well-known authorities in the field present different theoretical approaches to moral development, research findings in areas like honesty, childrearing, and situational variation in behavior, and application of theory and research to social issues such as education, the effects of television, bystander intervention in emergencies, politics, and the law.

Peters, William. A class divided. New York: Doubleday, 1971.

A highly readable, moving account of teacher Jane Elliot's well-known "blue eyes, brown eyes" experiment in giving 3rd-graders a chance to understand prejudice by experiencing it first-hand in their classroom. Conveys one teacher's approach to building empathy and a strong sense of community.

Piaget, Jean. The moral judgment of the child. Free Press, 1965.

Originally published in 1932, this early, exceptionally readable book by the famous Swiss developmentalist is full of examples of how 5-12-year-old children reason about right and wrong, lies, punishment, obedience, what's fair. Read the middle section especially for dialogues with children about moral situations. A good developmental foundation.

Porter, Nancy and Taylor, Nancy. How to assess the moral reasoning of students. Toronto: Ontario Institute for Studies in Education (see above for address), 1972.

Kohlberg has revised his system for scoring an individual's moral stage on the basis of a dilemma interview, but this little book remains a useful introduction to assessing moral reasoning. (The new guide is currently being prepared by Harvard's Center for Moral Education.) Gives examples of the 6 stages of moral reasoning for 5 different moral dilemmas.

Sprinthall, Norm & Erickson, Lois. Learning psychology by doing psychology: guidance through the curriculum. Personnel and Guidance Journal, 1974, 52, 396-405.

A very good article for using the vehicle of a semester course for moral education. Describes psychological and value education conducted with two groups of high school students--combining practical field experience with class discussion of value issues related to the practicum. Reports positive research results.

Sullivan, Edmund. Moral learning: findings, issues, and questions. New York: Paulist Press, 1975.

Reports in 120 pages several upper elementary school and high school moral education courses carried out in Ontario schools by faculty from the Ontario Institute for Studies in Education. Many valuable findings and practical suggestions are included. Also deals with the role of the student and the community in determining a moral education curriculum. Applies and evaluates Kohlberg approach.

CHILD DEVELOPMENT: A BASIS FOR OPEN CLASSROOM CURRICULUM

Patricia F. Carini

The Prospect School

Curriculum is an emotional issue, as is education itself. Because these issues are rooted in faith and belief, (there is no science of education), there is ultimately no empirical proof to demonstrate the superiority of one approach over another. I would like to start with a diagrammatic presentation of four major approaches to education and curriculum, and then proceed to a discussion of children's development.

Approaches to curriculum can be described according to the definition of three parameters:

-the thinking-learning process
-the nature of knowledge
-reality.

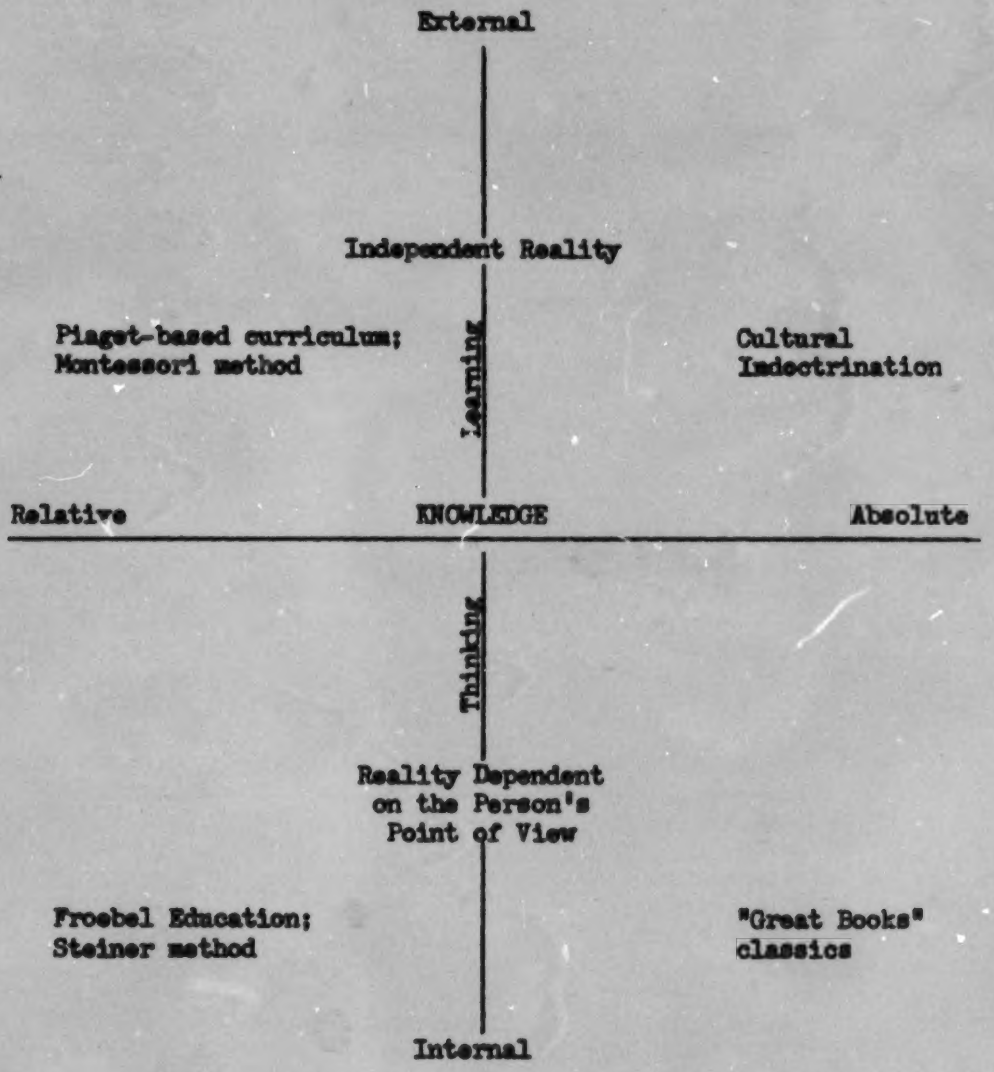
The thinking-learning process can be defined as either an internal process or an external process, and knowledge can be defined as relative or absolute. The combinations of these assumptions together with the definition of reality as relatively independent of the person or as relatively dependent on his perception of it yields the potentialities for curriculum depicted in Figure 1.

If, for example, we view knowledge as absolute, and if we define the thinking-learning process as internal and personal, we have the basis for the "Great Books" movement or, in other words, for a classical curriculum. This is an education in which the eternal in man is united with the eternal realm of ideas, that is, an education that identifies ideas as reality. If on the other hand, we view knowledge as absolute and the thinking-learning process as external to the person, we have the basis for a curriculum rooted in cultural facts, that is, in the facts deemed useful for maintaining a particular culture at a particular time. The cultural absolutism of science and the scientific-technological method as the standard for truth in our society today, or the religious dogma of generations past, are examples of a "self-evident" knowledge that must be transmitted to the members of the society as external fact to ensure that the cultural traditions will be maintained. This is an education in which the culture is equated with reality.

To consider the other side of the issue, if we view knowledge as always relative to the point of view of the person, other

Figure 1

APPROACHES TO THE CURRICULUM



dimensions of curriculum emerge. For example, if we also take the thinking-learning process to be internal, then we carry the relativity of knowing to the extreme of identifying as the basis for curriculum that which increases the person's interest in and relationship to the world, as he grasps that world to be from his point of view. We might identify both Froebel and Rudolf Steiner as exponents of this view. This is an education of the person as a shaper of a reality.

If on the other hand, knowledge is held to be relative, but the thinking-learning process is defined as external, as predetermined sequences of steps or concepts, we identify those structural sequences or experiences that will lead the child to the discovery of knowledge about the real world as the curriculum. Thus Piaget's belief in a logic in the person that matches a logic in the universe leads to the postulation of steps in the development of a logic that will apprehend the logic of the laws of the real world, and to an education that recognizes and provides the categories of experiences to facilitate that development. Similarly, Montessori postulated sequences of activities to lead children to certain concepts. This is an education that takes into account the person's understanding, but externalizes structured sequences he must go through to bring him to that understanding.

Even in so brief and inadequate a resume, the metaphysical issues at the roots of curriculum and education are evident. The nature of knowledge and reality, the nature of man, and the relationship of man to the world, society, and God, are among those issues. It is these metaphysical issues and the statements of faith that derive from them that make discussions of curriculum and education so emotional. May I repeat, there is no science of education and there are no empirical proofs to be brought to bear that will unqualifiedly establish one curriculum approach as superior to all others. If my basic view of man subordinates him to a given culture and defines the person's meaning in terms of services performed to maintain that culture and its traditions, then indoctrination into those cultural forms is an efficient form of education. If I am repelled by that approach as manipulative because I view man as an inner being whose meaning is intrinsic to him, then I will eschew any form of educating that does not begin from the premise of the realization of the individual person's meaning.

I would suggest to you that all of the current controversy about education springs from these fundamental metaphysical differences. The fact of this conference, and the fact of the impassioned press and literature generated by the open school movement, points to this. That the movement for open education is frequently shrill and extreme in stating its purposes is indicative that for a number of years only one philosophical position--the school as a transmitter of the culture--has been represented by the nation's schools. And as frequently happens when a philosophy is taken for granted and articulation of the philosophy's tenets is deemed un-

necessary or irrelevant, the practice in many schools deteriorated over the years to a mindlessness in curriculum that is virtually unbelievable.

As a product of that kind of a system, I went through a sequential curriculum in social studies in elementary school that illustrates that mindlessness: 3rd-grade was the pioneers, interesting to me and made most enjoyable by an imaginative teacher; 4th-grade was the history of Minnesota for the first half-year (reasonable enough as I lived there); and the second half-year Egypt, Babylonia, and the Seven Wonders of the World (the reason for this choice is obscure to me now as then), taught laboriously by a teacher who managed to dim even the spirit of the French explorers; 5-th grade again made some sense--"Westward Ho," the exploration of the world (the presence of an immense globe suspended from the ceiling of an otherwise barren classroom contributed to the topic's meaning); in 6th-grade, for reasons again totally obscure, we returned once again to Egypt, rendered more lifeless by virtue of repetition. Now this sort of thing is ridiculous and easy to spoof as Herndon has done in The Way It S'posed To Be through his references to the Egyptologists. I might add that we returned to this topic yet one more time, in ninth grade.

It is also true, however, that an emergent movement unites many strange bed-fellows in the reaction against a dominant and corrupted philosophical position. What I have tried to suggest is that there are at least three other metaphysical alternatives embodied in educational practice, and, of course, many variations and shadings within and among them. What is common to all of these positions--although the classicists are not being heard from much these days--is that although they define the inner experience and meaning of the person in different terms, they all do acknowledge that inner experience--even if, for purposes of practice, there is sometimes a willingness to externalize and abstract learning from that experience (as in orthodox Montessori schools, and among some teachers derivative from the Piaget position). Thus Dewey speaks of the "community of spirit" and the "inner connectedness of experience," Whitehead speaks of "first-hand knowledge," Froebel of the union of the inner and the outer, and Montessori of "the spirit of the child." What unites these approaches, then, and distinguishes them from "traditional education," or cultural indoctrination, is their focus on the person's meaning, on the person as a phenomenon.

This brings us to our central issue: the development of the person as the basis for curriculum. When I speak of development, I am postulating change in the person's organization of experience as a function of age. I am postulating, therefore, that the person has a meaning, a point of view that shapes reality, so that the same space occupied by the same person at different points in his life changes its meaning for him. Heinz Werner, for example, reports a changing sphere of reality, the sea, for the son of friends:

> The Scupin boy at the age of eight no longer recognizes the sea which he knew at the age of four. At that time the sea was determined by different things-of-action. Such small objects as mussels and little stones, butterflies, and the wet sand ready to be molded into simple forms--these made up the world of the seashore for the four-year-old, whereas the eight-year-old conceives this same region as an arena for sports and swimming, and no doubt thinks of the tremendous flat surface of the water as an invitation to adventure.
>
> (Werner, Comparative Psychology of Mental Development, p. 383)

Another example of how meaning changes, one familiar to all of us, is the experience of returning to a childhood scene as an adult.

I am not, however, postulating a direction or end to development, some ultimate maturity that vindicates our earlier childishness. I am not, as Piaget does, postulating that development leads to specific outcomes such as logical processes, which define maturity, and which, by implication, place all earlier organizations of experience as imperfect or inferior relative to that later state of completion or perfection.

What I am suggesting is that if we can arrive at a description of the person's organization of experience within broad age limits, we can determine any of the following:

-his spontaneous interests and involvement
-his spontaneous modes of thinking
-his spontaneous mode of relationship to events.

The description does not prescribe how we will be responsive to the person. That, as I have already suggested, is a decision that must be grounded in faith--in ethics and values. It also does not release us from determining the individual person's meaning, or as Froebel would state it, his themes. Rather, this description provides a framework within which the individual's interest and meaning can be articulated. And teaching remains, as should all human relationships, an art rather than a technology.

How do we go about obtaining this description of the person's organization of experience? By observing him in his spontaneous activity within a setting; for a child, this means as he plays. And by observing him, not our constructs about him. This is not as simple as it might seem at first glance. As adults, we have constructed our own organization of experience, an organization established through classifying events, through constructing causal relationships, and most fundamentally through labelling and naming what we see. Because of the organization we have constructed for our-

selves, we tend to be cut off from the child's organization of experience and therefore from the meaning of what he is doing.

One example among multitudes that illustrates this separation of the adult from the child is a story about a skilled and experienced teacher of my acquaintance who, in her efforts to effectively "open up" her classroom of 10- and 11-year-olds, was seeking for ways to extend their interests (which also illustrates one way of being responsive to a person's interests). In this instance, she wished to extend the all-encompassing interest of a group of 10- and 11-year-old boys in forts that they had constructed out of packing boxes, and had not, by her account, emerged from in three months. She reported with considerable frustration that her many efforts to extend this activity had failed. She had read stories about forts and castles, arranged two field trips to forts and museums in the area, and tried to generate discussions of this apparently compelling interest--to no avail.

Watching this group was a revelation, because as it turned out, they were not playing forts. Two boys had set up formal school in two of the boxes and referred to themselves as the office managers. Five others--and this activity was fascinating--were in a process of continually rearranging and transforming the space of four boxes. Two other boys were indeed beleagured in their box, but more as a territory than as a fort. What the genesis of the situation was I could not determine, but anything they were attempting was being undermined by two outsiders who were subtly and slyly provoking. But no forts, and the boys' polite disinterest in the teacher's efforts at extension was understandable.

When the teacher and I spoke later, she recollected that, in fact, the transformer group had emerged enthusiastically from their boxes when she introduced molding--candles, plaster of paris--to the total group. That is, another activity involving shaping and transforming did extend their interest. I suggested that blocks, sand, and other building materials would be useful, and that the intricate tunneling they were engaged in was related to mazes and also prisoner-of-war escapes. Indeed, as we talked a whole multitude of possibilities came forth, and what had seemed so limited and limiting as an activity proved itself to be capable of virtually unlimited expansion.

Even more obstructing to vision in observing than our mere adulthood and own past experiences (as with forts) is a preconceived theoretical framework. Thus, just as there are Skinnerians who never see a child receiving a compliment or a gift but see him as being reinforced, so there are teachers influenced by the formidable weight of the Piaget position who never see a child puddling and splashing at a water table, but always see a child learning to conserve capacity or learning the principle of sinking or floating.

Even if we can break out of our categories and immerse ourselves

in the child's experience, the condition of the setting may obstruct observation. Most schools in the past hundred years have provided precious little to observe, and, therefore, teachers have practically no experience in observing kids, nor any first-hand understanding or knowledge of children's spontaneous activities within a play setting.

I have had the unusual privilege to do descriptive observation of school-age children during the past eight years within a school setting reflective of a Froebelian philosophy. It is a setting in which children engage in a rich variety of activities with natural materials. I would like to share with you some of the description of children's interests, ways of thinking and of relating at different ages as they have emerged from these observations, and the curriculum that has evolved from these interests and modes of thought. However, it should be noted once again that given a different style of responsiveness to the children's spontaneous interests, a different curriculum would have resulted. If, for example, teacher responsiveness to the spontaneous interest in object attributes--color, size, weight, etc.--between the ages of 7-9 were more direct and forceful, there would doubtless be a more pervasive engagement in logic games and science than is the case in this particular setting.

Within our population of children aged 5-14, we have observed characteristic organizations and reorganizations of experience in the following age pattern:

> Consolidation of a dynamic things-of-action mode at 5.
>
> A critical shift from that mode to a separation of the self from the object at 6-7.
>
> Construction of an object-world based essentially on external characteristics (ages 7-9), and increasingly consolidated as an object reality (ages 9-11).
>
> A critical shift from the reality of objects to a hypothetical, personal mode at ages 11-13.

To illustrate, I will concentrate on the crisis at 6 and 7 and the interests and styles of thinking emergent from it.

The world of the 4- or 5-year-old child is typically a world of nearness to hand, a world bound together by feeling in which things exist only in their immediate meaning for the child.

> The child's world is above all a world of action, a behavioral sphere in which everything is framed in terms of handiness and unhandiness, of efficaciousness and inefficaciousness. Katz says that children approach nearly all objects with the questions, 'What can I do with it?' 'For what can I use it?' 'Furniture which cannot be used for gymnastic exercises and

houses in which no well-known acquaintances live hardly exist in the child's consciousness.'

(Werner, Comparative Psychology of Mental Development, pp. 382-83)

From our observation, this world begins to break up some time between 6 and 8, and the source of the break-up also presages the emergent interests of the child during the later primary and elementary years. As the young child plays, as he forms, constructs, draws, and names the things of the world, he is in the process of separating himself from the object and the objects from him. As the things of the world gain stability, they begin to stand apart from him and his feeling. Standing apart, they become things in their own right to be explored and examined in a whole variety of ways. If as a baby the only way the child had to know the world was through his mouth, that is, by incorporating, then the years from 1-5 or 6 have articulated the body dramatically--eye, hand, ear, voice. All have emerged in their particularity and peculiarity, and reciprocally emergent is a world, not only of dynamic and feeling but of object properties--not fully constituted but emergent. Here is an explanation given by a 5-year-old to a 3-year-old:

> I know why the grownups mow down the dandelions. They grow bumblebees. I saw one. They were both yellow.

Here are the same 5-year-old and 3-year-old digging night crawlers:

> 5-year-old: "See, these are snakes before they grow up. They're baby snakes." Me: "Not really, these are worms." 5-year-old: "Yes they are, too, see--this one (holding up a truly enormous night crawler) is almost bigger enough. It's almost a snake now."

Like so many of life's happenings, the excitement and potential of this avid exploration is shadowed by fragility and lack of certainty in the child. What is new is scary, and where he had stood securely in the center of his previous world, he is now one in many: as objects can be compared to each other--bigger, smaller, red, green--so, too, can he be compared, and perhaps found wanting. One of my most consistent observations of 6 and 7's is that their exploratory efforts are inevitably punctuated with tears, "help me," "I can't," and general negativism--often to the dismay and bewilderment of parents and teachers, remembering the insouciant, confident 5-year-old.

But the new world is fascinating too, especially if it is stable, peopled with consistent and supportive adults. What is interesting is the stuff of the world itself in all its particularity--snowflakes, moss, stones, ants, leaves, ferns, toadstools, gerbils, worms, beetles,

snakes, shells, butterflies--and most especially that stuff of the world that the child can shape with his own hand--clay, sand, water, mud, snow--to represent the world around him. With the new ability to compare, there is fascination also with extremes--the very large and the very small, the very old and the very new, with quantity (a million zillion years, and an eensy inch), and with the multiplicity of things in general. The transformation of objects, with the contrasts of change and permanence, are of compelling interest--popcorn, mold, cake batter, ice, dyes, and the seasons themselves. Finally, the uncertain independence achieved by the 7-year-old in his separateness from the security of a world that used to encompass him through the feelings and magic that united him with it, is expressed both in a love of repetition and the familiar--"let's read the Little House book again"--and in a yearning for the adventures. The woods have new possibilities now--hidden forts and special outposts--and the stream is a challenge to create dams and "small world" panoramas of gigantic adventures.

In summary, the child in the primary years from roughly 6½-8½, has a spontaneous interest in the object world around him, and that interest is expressed through a fascination with:

Particulars, and particular attributes, especially of living things:

-the colors on the rabbit, the shape of his paw
-the number of peas in the pod
-the shapes and sounds of the gourds

The extremes of things:

-the tallest tree
-the oldest animal, and dinosaurs in particular
-the tiniest baby animal
-tidal waves

The transformation of things:

-bread and yeast
-the inside of the coconut or the pumpkin
-the snake shedding his skin

Independence and competence:

-cooking
-exploring
-"small worlds"

and the representation of the world in plastic forms (clay, water, paint) and in drawing.

It remains only to say that his mode of knowing, of learning

these relationships, is at this age through his body and through direct exploration of the concrete event--not primarily through words--and he will characteristically link one event to another in serial form--"and then, and then"--rather than relating them causally. This is not, therefore, an age of overviews, of planning, or of possibilities. Things happen one after another, and continuity and the particular focus of the moment determine the relationship of things. Thus, in putting pictured animals together in groups of like animals, the 6-year-old may place the elk with the deer "cause they got horns," but place the moose with the mammoth "cause they have fur" and so on.

What is the curriculum which can evolve from the spontaneous interests of 6-8-year-olds? We have already indicated that understanding a child's interests at a given age does not prescribe a curriculum, that, in fact, the decision of <u>how</u> we will be responsive to those spontaneous interests and modes of knowing reflects a judgment of value. I value the development of a grasp of causality and of logical predication, I can respond particularly to the child's interest in naming and measuring traits by introducing equipment--rulers, measures, etc.--that focus his attention on those aspects of the event. If, on the other hand, I value the ability to form and to shape materials, I can provide large amounts of transformable material. And so on. I do not mean to imply a mutual exclusiveness of any of these orientations, but only that emphasis can be given to the child's interests in a variety of ways, and that these emphases will determine the particular shape the curriculum takes.

The other determinant of the curriculum will be the extent to which particular concepts external to the child (but a part of the common parlance, part of the collective representations of the society) are stressed. Because the child's mode of knowing is direct, bodily, and serial, his natural interest in concepts is largely confined to the original and simple function of the concept to represent what he sees and thinks--in drawings, models, blocks, spoken language, clay. But categorical concepts elude him. He can, of course, be taught to <u>say</u> that all mammals are warm-blooded, or that verbs are words of action, as isolated facts. But the over-all, inter-related classificatory systems of biology or grammar are not available to primary-age children. It is nonetheless perfectly obvious that one can extend a child's interest in filling containers to get him to identify for the moment that the water in the tall, narrow container will not overflow the wide, flat container. It is equally true that the child will naturally go right on filling and pouring water of his own accord as long as there are interesting things to pour with, and that he will make all sorts of observations as he does so.

The curriculum I am going to describe for you reflects the evolution of children's interests in Groups I and II, ages 5-8, at The Prospect School over a year's time. This description is derived from teachers' records, specifically their accounts over a 3-month basis

of the three or four most significant activities on-going within their setting during that period. Thus, for any given group within the school, the curriculum for a year would be documented through 12-16 such descriptions. For the purposes of this paper I have summarized these descriptions (see Figure 2), and have also prepared a diagrammatic sketch of the evolution of one activity (see Figure 3) to illustrate the process of curriculum documentation.

This curriculum evolved in a particular school setting, and it is that setting that has given particular shape to the children's spontaneous interests. Given another setting, those same interests might have been responded to in other ways. The underlying attitude and value that determines the character of the setting at The Prospect School is most nearly reflected in the philosophy of Froebel, and I will close with a statement from his book, Education of Man, on the purpose of instruction:

> For the purpose of teaching and instruction is to bring ever more out of man rather than to put more into him; for that which can get into man we already know and possess as the property of mankind. On the other hand, what yet is to come out of mankind, what human nature is yet to develop, that we do not yet know....

Figure 2

THE EVOLUTION OF THE CURRICULUM AT THE PROSPECT SCHOOL

Groups I and II (Ages 5-8)

During One Year

SOURCES OF THE CURRICULUM	TYPES OF CHILD INVOLVEMENT AND ACTIVITIES		TYPES OF DISCUSSION	
Weaving	Collecting	18	Identification	4
Sand	Drawing	5	Functions	3
"Little House in the Big Woods"	Writing	8	PROCESS	21
	Weighing	2	History	2
Mystery box	Guessing/estimating	1	Changes	1
Milkweed pod	Reading	2	COMPARISON	18
Water tray	Walks and trips	6	Properties	6
Airplanes	Hunting	1	Classification	3
Singing the "Titanic Song"	Taking apart	3	Description	8
	Observing	8	Potentialities	3
Guinea pig	SHAPING & CHANGING	20		
Paper and water	Dramatic play	10		
Baking	MODELLING AND SMALL WORLDS	15		
Fungus walk				
Burning	Block representations	5		
Harvest	Research	8		
Turtle	Talking	4		
Wax	Animal care and feeding	3		
"Old things"	Experimenting	11		
Dump	VARIATIONS OF PROCESS	42		
Bones	Presenting	8		
Maple sugaring	Planting	8		
Plants	Sorting, identifying, classifying	10		
Bread	Exploring	4		
	Mapping	1		
	Repairing	6		
	Measuring	2		

CURRICULUM AREAS:

Plastic & Manual Arts - Cooking - Nature Study - Dramatic Play & Movement

SKILLS:

Reading - Writing - Numbers

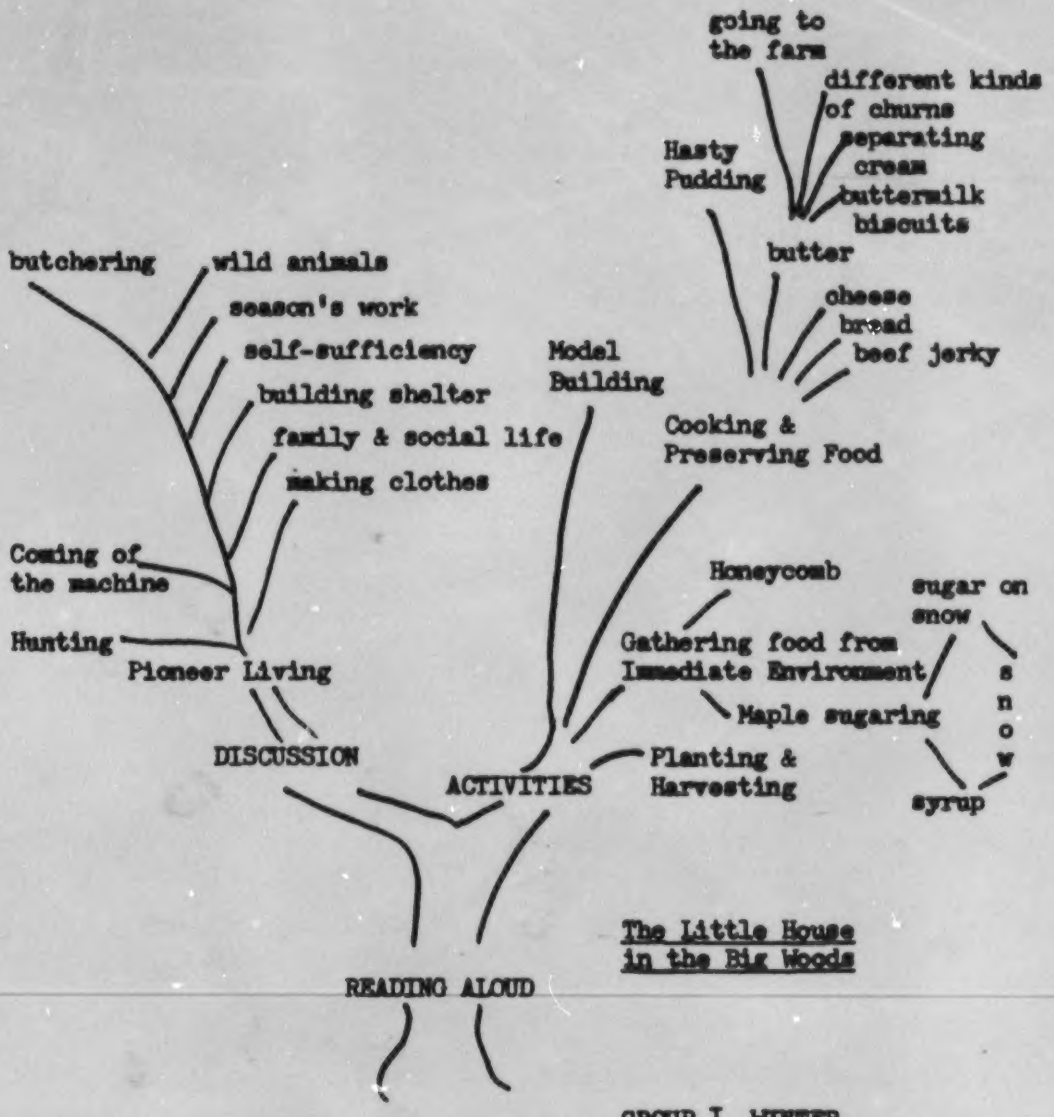
Figure 3

CURRICULUM TREE

Activities of 5-8-Year-Olds Evolving

From Reading of Little House

in the Big Woods



GROUP I, WINTER

SCIENCE CURRICULUM IN THE OPEN CLASSROOM--
STRUCTURE OR STRICTURE?

Verne N. Rockcastle

Cornell University

To begin, suppose we consider what curriculum means. Of all the meanings ascribed to it, I prefer that of Mauritz Johnson (1967), who described curriculum as "a structured series of intended learning outcomes." This definition is short, has several key ideas in it, and applies, I think, to any good educational plan or program.

Structure, in my opinion, is key to good educational practice. To some, "structure" may connote rigid, fixed, firm, inflexible, preconceived, adamant. If it does, then to those persons structure is obviously stricture. But to me, a teacher, "structure" means having a clear idea of where the pupil or the class is heading. Not just at the moment. Not for only a term. But for some distance into the educational future. If I am to teach effectively, I need to know where my pupil has been, what lies ahead for him in the subject and in society, and what I hope he will gain as a result of our interaction. If I don't know that, then there is a serious limitation to my effectiveness as a teacher. Learning might still proceed in my classroom, but in spite of, not because of me!

I have found it helpful in coming to grips with structure to first describe science learnings for a child in terms of minimum experiences or minimum competencies. I have given considerable thought, for example, to experiences that I think are minimal for a child completing the first six years of school. Without these experiences, I think he has, in a way, been cheated. He is ill-equipped to compete successfully in later grades, or he has missed basic direct exposure to objects, interactions, and phenomena that would serve to interpret or enhance encounters in later life.

Some of these basic experiences are:

1. Planting a seed and observing its germination, and (hopefully) also its flowering and fruiting.

2. Collecting the egg of a small animal such as a toad, and observing its development through larva to adult.

3. Connecting a cell, wire, and bulb to make a complete circuit, and finding out that a bulb is singularly unaware of position in a circuit.

4. Making and using some kind of simple measuring device, then finding a quantity that would ordinarily be unobtainable (such as the speed of the wind at some distance above the ground or the speed of a sound).

5. Observing the movement of constellations around the north star, both during the night and during the year.

6. Dissolving salt or sugar in water, observing that it disappears, and then getting it back again in somewhat the same form that it was before dissolving.

7. Deciding something on the basis of a sample, not because the total was inconvenient to count, but because it was impossible to count (and thus being forced to rely on the sample).

8. Moving a massive object by indirect means, such as by a lever or a pulley, or by a large surface on which fluid pressure is exerted.

9. Finding the warm place on a refrigerator or freezer--the place that is made warm by another place being made cold.

10. Wearing down an angular piece of rock by repeated shaking of a jar containing water and several such pieces of rock, and periodically examining the stuff in the jar.

11. Making periodic observations of something decaying.

12. Explaining an observed (and understood) interaction to another child who has not observed, or who has not understood.

There are other equally important experiences that I think are "musts" for a child reaching the age of twelve. The experiences need not be exactly these, nor do they need to occur in discreet and complete units. Often they accrue in bits and pieces, to be assembled in the cognitive structure of the child over a period of time. But in a quality program they will occur or accrue; they will not be skipped.

Now let's return to one of these minimum experiences, and examine it for structure within it. Suppose that we accept that in the scientific education of a child he must experience being able to move a massive object by applying a small force over a large area. What would be the structure within this concept? What cognitive bridges, what manipulation of materials and objects, should be assured for the internalization of the broader concept?

I suggest that we begin with air as stuff--matter, in scientific parlance, but stuff to kids. I would begin by giving young children--6-year-olds--Baggies. They would catch air in a Baggie and perhaps pop the Baggie. They would carry air from one end of the room to another in the Baggie, dump it out, refill the Baggie, and carry the air back again. They would take room air outdoors, empty it, and bring fresh air back inside. They would even graduate to larger Baggies such as a trash bag.

Given the trash bag, they would sit on a bag full of air. Lie on it. Jump on it. Put a large cardboard on it. Sit on the cardboard. Put a box on it. Sit in the box. Have the teacher sit on the bag, or on the bag with a cardboard on it. They would sit or lie on an air mattress. They would even pump up an air mattress with someone lying on it--pump it up, perhaps, just by blowing on it. Air would no longer be a vague, tenuous kind of stuff. It would be real--as real as stones, shoes, chalk, and gum.

Then I would let big things "ride" on air. A piece of plywood could fall over on a cushion of air. We as a class might move a carpet or a gym mat on a cushion of air. We might even let a pane of glass fall over on air. All the children would have dropped cardboards on air. They would have learned--well--that air cushions objects, can hold up objects, and is "strong" over a wide area.

As a concomitant learning, we might explore the concept of "empty." We would first empty a container such as a wastebasket or a box. Completely empty--to the satisfaction of the class. Then we would proceed to take Baggies of air out of the "empty" container. Not just one, not just a few, but thousands! One for every person in town out of a wastebasket! And we would reinforce the concept of empty by trying to empty a can of cranberry sauce or dogfood--first without a hole in the opposite end, and then by a small hole in the opposite end. Then, the pièce de résistance! Time for the pieces to fit into place in a grand concept that corelates all that went before. Air as stuff, air pressing on a large surface, air holding up a massive object, air pressing in all directions. We would have the children lift a heavy table (inverted on another same-sized table) with an adult sitting on it--simply by many persons blowing air into Baggies inserted between the two tables.

Finally, a reinforcement of the concept in a way to meld the theoretical and the practical. Finding out the mass of a truly massive object that is held aloft by air pressure: a bus! We measure the area of the tire pressing on the pavement, mark it off in square units, and write the pressure on each of the units. From this we compute the force that each tire is holding. The forces on all the tires are added, and presto! the weight of the bus. It's a strategy of sequence. There's a definite structure to the learning, but little stricture!

Johnson's definition of curriculum speaks of a structured series

of intended learning outcomes. This implies an order, a sequence, a hierarchy. Assigning this quality to a curriculum does not bother me in the slightest. In fact, if I am to believe the findings of Piaget (Flavell, 1963; Ripple & Rockcastle, 1964; Pulaski, 1971) and Ausubel (1968), then I would be a most inefficient teacher if I did not recognize that there is a sequence in the learning process itself. That there are stages in the intellectual development of the child must be acknowledged if there is to be any real learning at all.

Sequencing implies some frame of reference and when this frame of reference elaborates the objective or intention of the teacher in terms of the learner, then there is a pedagogical logic to the sequencing.

Consider the case of the molecule. I think it is pedagogically unsound to introduce the concept to 7-year-olds. Yet you can find a number of programs that purport to do so. I think it wiser, and sounder, to introduce chunks, pieces, and bits before trying to deal with subvisible particles. How can a child formulate a model of the subvisible except through sequential experiences with the visible?

The following ordered series of concepts will illustrate my idea of sequencing in the development of a conceptual model of molecule. Each concept suggests, but in no way dictates, direct experience with real objects. Together, these experiences might form a solid base, or cognitive structure, upon which the child could build, or which he might reassemble, for a higher order structure, "molecule."

1. A container "full" of a substance may still have room in it for other substances (for example, into a glass full of marbles you can pour sand, then water, then sugar)!

2. A tiny bit of a substance may appear different from a large quantity of the same substance; conversely, a large quantity of something may appear quite different from a tiny bit of the same substance (ice cubes vs. ice shavings illustrates this contrast).

3. Some substances may pass through objects that don't appear to have holes (you can pass sugar, for example, through filter paper).

4. Some substances can be added to water without increasing the volume by the amount added.

5. Objects too small to be seen without a microscope can sometimes be seen by reflected light (e.g., in a cloud chamber).

6. Masses and motions too small to be seen individually can sometimes be observed if a lot of them are lumped together.

7. Soluble materials (e.g., vegetable dye) can spread through a liquid even though the liquid is neither stirred nor heated.

8. Substances vary in the ease with which they pass through membranes.

9. A material that will not permit some substances to pass through it may permit others to pass.

10. Substances in solution often pass through membranes, when they could not do so before dissolving.

11. Some things that cannot be seen can be sensed in other ways, with almost equal certainty.

12. An inference, when arrived at in several different ways, or which is the result of considerable evidence, may be as certain as an observation.

Next in Johnson's definition of curriculum is "intended"--a structured series of intended learning outcomes. In my opinion, there is some intention in the mind of any effective teacher. The intent may be broad and diffuse or it may be narrowly specific. It may be as diffuse as developing in the child a respect for all living things, no matter how lowly, ugly, or insignificant they seem. Or it may be as specific as having the learner identify an ellipse from among several closed lines. But specific or general, the intent of the teacher should be clear in the sequencing.

Intended learning outcomes implies pupil-centered intent. It is not enough that the teacher resolve, aim, or propose to develop certain concepts, skills, or behaviors in a child. The teacher must ascertain whether those intended outcomes were indeed learned. If they were, fine! If not, then it is incumbent upon the teacher either to redesign the instructional mode or to reevaluate the intent. The learning outcomes, in any case, must be demonstrable. It is insufficient to resolve "to develop an awareness of the interrelationships of plants and animals in the natural environment." The teacher must know what a particular child will do when...as a result of the instruction.

Consider the concept of air pressure, for example, and the extensive array of experiences supporting it in a child of about age ten. He may have bounced air-filled balls, blown up balloons, caught air in a Baggie, sat on an air-filled cushion, seen tires inflated, sucked liquids through drinking straws, observed liquids gurgling out of containers, felt the pull of a suction cup, tried to shake cranberry

sauce or dog food from an open-ended container, and seen the tops of home-canning jars pop down upon cooling. Perhaps he has even seen a steam-filled can collapse when the steam inside condensed.

These advance organizers surely increase the probability, but at the same time are no guarantee, that a child will understand the collapse of a thin-walled gallon can from which water runs through a long tube. (This is easy and dramatic to demonstrate--hold the can high, say, at the top of a ladder.) The child might explain what he sees by saying "air pressure" caused it. But would his conceptualization of air pressure, developed from prior experience, be sufficient to explain why a thicker-walled container not only would resist collapse, but would probably prevent water from running out of it in the first place?

It is important, however, that intention not foreclose on flexibility. There can be structure and sequence without stricture, if strategy is creatively and lightly employed. Think of intention as a planned route to a certain spot on a map. The route is clear in the mind of the traveller. But if there is construction enroute, or if an interesting diversion occurs, and the traveller knows the territory, he can quickly take an alternate route to his destination without difficulty. In fact, alternate routes often add unanticipated enrichment. But the ultimate goal should not be lost in the diversion. So it is with a planned curriculum. Structure need never result in stricture.

An illustration of structure without stricture might come from the study of electric circuits. Suppose, for example, that Mrs. Staluce, a teacher of 25 4th-graders, is faced with the following sequenced list of concepts about electric circuits:

1. An electric circuit is a loop. It has no beginning and no end.

2. When a bulb and battery are connected so that the bulb lights, there is an electric current in an electric circuit.

3. A battery is needed to make an electric current in a simple circuit.

4. When there is a gap in a circuit, there is no electric current.

5. Wires are not the only things that will allow an electric current in a circuit.

6. It makes no difference which way an electric current flows in a simple circuit.

7. A switch is a gap that can be closed or opened as needed.

8. Additional batteries stacked in the same direction make a light brighter. The more batteries, the brighter the light.

9. Reversing one battery does not stop an electric current; it only cancels out another battery like itself.

10. In time, a battery wears out from producing an electric current in a circuit.

Mrs. Staluce might simply make a battery, a wire, and a bulb available to the class and ask, "Who can make the bulb light?" Even better, she might provide groups of children with these materials. Still better, she might provide each child with the materials. It is important only that she create an opportunity for children to manipulate the materials and interact socially as the manipulation proceeds. The rest is up to the children.

Suppose that it takes 20 minutes for the first child to make the bulb light. And suppose that another child asks, "Hey, how'd you do that?" Immediately, that child becomes a teacher-aide in the room, and then another--and another. It doesn't take much time for social interaction to spread an idea, especially if manipulation of objects and an element of surprise are combined.

When Mrs. Staluce observes that most of the children can make a bulb light, she might ask, "Most flashlights need two batteries. Could you make the bulb light if you add a second battery to the first one?" Again, there would be some trial and error. But in time there would be an almost guaranteed, "Hey! It's brighter! Can we try three?" Or, more often, a group of children would simply try a third, then a fourth battery without asking.

If the wires provided were too short to span four batteries, the children would soon splice several together to make one long wire. If the bulb being used would not stand the voltage of four or five batteries in series, it would "blow," and children would have learned something about why bulbs can burn out.

By having in mind some structure in introducing the concept of an electric circuit, Mrs. Staluce actually might accomplish a number of objectives. She might get across concepts 1-4 and 8, merely by asking two questions and having some materials on hand for children to manipulate. She might not do so well if there were absolutely no structure to her instruction.

How about competencies? Along with the stated cognitive objectives about circuits, there might be the following competency objectives in the curriculum:

1. holding parts of an electric circuit so that positive contact is maintained at all times

2. checking to see that insulation is removed from parts that should touch in an electric circuit

3. selecting and installing something in an electric circuit to prevent electricity from flowing

4. opening and closing a gap in a circuit to start or stop the flow of electricity.

In Mrs. Staluce's classroom there would be little need to concentrate on competencies. They would be attained automatically just in the experience that the children would have with their simple circuits.

What a child can demonstrate, as a result of instruction, in what are to him real-life situations, is excellent evidence of learning. Some examples of the kinds of competencies that I think a child completing sixth grade should be able to demonstrate are:

1. measuring quickly and accurately fundamental observables such as length, mass, and time.

2. determining the likely cause of an effect, when only two variables are involved.

3. extrapolating from data when the relationship is rather clear-cut (as, for example, the number of tacks an electromagnet will pick up, given an increased number of turns of wire).

4. changing the motion of an object by the direct application of force(s).

5. inferring about a large population on the basis of a sample.

6. determining when an experimental test is valid (that is, when all variables except one are controlled).

7. moving a massive object by means of mechanical aids such as a lever, or a pulley and rope.

8. filling a vessel to a predetermined level with a liquid or a pourable solid.

9. identifying a common factor in two or more interactions whose results are similar.

10. zeroing in on a center point, such as when tuning a radio, or focusing a camera or a microscope.

11. disposing of waste in an ecologically efficient manner.

12. taking proper precautions to prevent heat from entering or leaving an object or a material.

13. determining direction (N, E, S, W) and giving directions (from one place to another) quickly and accurately.

These are neither sequenced nor complete. They are merely examples of things that I think a child should be able to do. Some of them probably would be developed at play. Others would be the result of parental encouragement, or of conscious or unconscious emulation of adults or other children. But some undoubtedly would not be developed outside of the more formal teacher/pupil interactions in a classroom. How often can a person on the street give clear directions to a driver--directions to a place that is several blocks and turns away? How often can a driver follow those directions without asking at least once more on the way--especially if some construction blocks the suggested route?

From the curricular characteristics described so far, it may seem that "curriculum" and "open classroom" are mutually exclusive. But are they? The curriculum merely indicates goals, sequential steps toward those goals, and sometimes suggests means of achieving the goals, or implementing the steps. That is all. It does not, or should not, restrict the creative teacher in any way except to maintain a focus on the goals. Even the most creative and effective teacher should have goals, or aims, or objectives stated and in mind as he teaches.

What other benefits might be derived from this curriculum applied in an open classroom? Well, there would be no holds barred if, for example, the children in Mrs. Staluce's classroom wanted to construct something with their simple circuits. Suppose that they wanted to darken the room and illuminate it with their home-made flashlights. O.K. Suppose that they wanted to know how long a wire could be used to make the bulb light. O.K. Suppose that they were having trouble holding a stack of batteries, and decided to lay them in the fold of a book, tilted up a little to keep the batteries touching. O.K. Suppose that someone saw a paper towel tube and decided to put the batteries into it to keep them from collapsing. O.K. Anything is O.K. so long as the safety of the children is not jeopardized, and no damage results to property. The strategy in structure lies in creative flexibility and in opportunities to stimulate, encourage, challenge, question, and praise.

Sometimes investigations of a really scientific nature will be suggested by the children themselves. In one class studying electric circuits the question came up, "What's the best battery for a flashlight?" The children decided to make some simple circuits with various kinds of flashlight batteries, and test to see which lasted the longest. This raised all sorts of questions. Among them were:

1. Is the battery that lasts longest best? What if it costs twice as much, but lasts only half again as long? Is it still the best buy? How do you decide which is the best buy even when you know the price and how long the battery lasts?

2. How is a flashlight used? Is it turned on and left on until the battery is "dead," or is it used intermittently? If intermittently, what would be representative time-on and time-off periods?

3. When is a battery "dead?" When its glow can no longer be seen? (Even then, might it still be seen in a dark closet?) When the electric current no longer moves the needle on a meter to a designated spot? What spot?

4. How can you tell whether one bulb is the same brightness as another (uses the same amount of electrical energy)?

In the case of this class, the diversionary route to a particular spot on the intellectual map (the list of concepts and competencies) that the teacher had in mind when she began the lesson was a far more rewarding one then the teacher had anticipated. But she was professional enough to recognize the value of the alternate route and take it.

How far should the exploration go? As far as the children seem to want it to go. When they indicate lagging interest, or when their explorations get them into concepts too complex for efficient investigation, the skilled teacher will soft-pedal the activity. Is this stricture--to soft-pedal honest interest and curiosity? I don't think so. I think it is simply efficiency of instruction. If it takes a child a week to develop a hazy notion of something, when in two or three years he could develop a clear, useful concept in a single hour, is it efficient to use the week that way?

Investigations will not always proceed so automatically as they often do with simple circuits. Then the teacher must be a sort of periodic catalyst. Not a reciter of recipes. But simply a hint-dropper. A question at the right time. An object or a material that suggests a particular use. Or simply a change of pace that allows gestation time for a new idea.

As another example of how instruction might proceed in a classroom that is not quite so open, and financial support not quite so forthcoming, suppose that the children (9- or 10-year-olds) were studying time and methods of measuring time. (If the idea of their having to study some subject such as this has little appeal, then suppose that there arose a need to measure something in seconds, and there was no sweep-second hand on the wall clock. Then the children

would be at the same place as those who were studying time and methods of measuring it.) As one means of measuring time, the children are making a "one-second pendulum." Each has a weight and a length of string. Each is swinging his pendulum, and counting to see how many round trips (to and fro) it makes in one minute. Quiet minutes!

At any rate, several questions are almost bound to arise. "What if there was more weight on the string?" And since all that is needed to answer such questions is a manipulation of the materials already in the children's hands, answers come quickly. They also come from nature, not the teacher. Perhaps that is one of the unique qualities of true scientific investigation. Nature, not the teacher, is the final authority!

I don't want to imply that structure can never be stricture; it can. For example, a class was carrying out the E.S.S. investigation on pendulums. At one point, two boys were asked, "Suppose a can of water was used instead of the wooden block? What do you think would happen?" In the ensuing discussion, the question of a full can of water was considered. Could it be pulled to one side without spilling? Could it be agitated in ever increasing arcs, until it got really swinging, without the water spilling?

The boys decided to get a can and try it. But there were no cans in the classroom, and none easily available in the school. Besides, the teacher pointed out, there was a lesson to finish with the materials in the kit. Thud! went their enthusiasm. Closed went the door on their intellectual curiosity. Structure in that room became stricture.

On the other hand, structure can appear to evaporate under the guidance of a creative teacher, and quality learning still results. A teacher trying consumer education on young children took the class to a supermarket. There they selected and purchased a bottle of the largest-looking olives. In the classroom they drew what they thought the olives would look like when removed from the bottle. Then they opened the bottle and took out the olives.

Surprise and disappointment! The olives were not what the bottle purported them to be; they were obviously smaller. The class filled the bottle with water, and took turns playing "big finger" in the bottle. Intuition told them that if slender bottles could make olives appear bigger, then bigger bottles should make them appear still larger. The teacher provided bottles and jars of all sizes, some of them with round sides and a few with flat sides. It didn't take much experimenting for the children to learn that it was the slender bottles that made things look largest, and that flat-sided jars didn't make objects inside them look larger at all.

The teacher had stumbled on an exploration in magnification. She sensed the unique opportunity her consumer-education lesson provided. In spite of the structure in her original lesson, she stayed

loose and let the children investigate on their own. In the end, she achieved her objectives in consumer education, and realized some unexpected ones in science.

Structure is essential to good education. And careful sequencing contributes a great deal to structure. But in the strategy of sequencing lies flexibility. Structure and flexibility are compatible--in the hands of a good teacher. In the final analysis, it is the teacher, not the curriculum, that spells the success of instruction. And given a curriculum that is a structured series of intended learning outcomes, and a permissive climate in the classroom, together with a creative and responsive teacher: what a combination for any child!

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THE ROLE OF THE TEACHER IN THE INFORMAL CLASSROOM

Dorothy H. Cohen

Bank Street College

Good teachers have at all times and in all settings brought intellectual vigor, empathy, fairness, and often humor to their teaching. As we speak of the role of the teacher in the informal classroom today, let us not disassociate ourselves from what was good in the past as though we are speaking of a completely new phenomenon born full-blown out of a sudden insight in Great Britain. It is not at all necessarily true that with the "open" classroom we will be creating all good learning environments, whereas we used to have all bad ones. Good and bad in education do not follow from the name of the game, but from how it is played.

Nevertheless, the role of the teacher in the open school is not the same as that of the teacher in the traditional school. In important ways the two are even antithetical. But we would be fooling ourselves if we believed that the role of the teacher in the open school is so unrelated to good teaching practice of all time as to be unrecognizable.

Social necessity dictates the need for a change in children's education, and this in turn calls for a change in the role of the teacher. But change must take into consideration internal continuity and development of the profession on the one hand, and the relationship between an educational mode and the period in which it is shaped on the other. The present concept of informal education must therefore be examined with attention to continuity within our professional history so as not to lose any of its potential depth; and it must also be perceived in relation to the social problems of our time so as not to miss any of its implications. Failure to understand the breadth and depth of the changes called for is to court superficiality and verbalism, something which neither children nor teachers must tolerate any longer.

Two kinds of development relevant to the changing role of the teacher call for long-overdue attention. One is the knowledge about children's growth and learning that has been accruing for the last hundred years or so at a more rapid rate than in centuries before and to which established educational practice is only barely beginning to pay lip service. The other is the world proliferation of knowledge, which makes it impossible to be dogmatic or righteous about any specific curriculum for school children. The first causes some educators to confuse sentimentality with insight. The second

causes some educators attracted to open schooling to avoid any kind of thinking or planning at all about content, while both cause conservative educators to wail loudly about the security of the glorious past when teachers knew what they were doing and children knew what was expected of them.

To grow knowledgeable enough about child development and curriculum content so as to relate them to each other and to the contemporary scene would be a challenge to the teaching profession as it now functions even under the most benign of circumstances. To do so today is particularly difficult as well as particularly necessary because of the contradictory directions proffered by the social and political situation in which education now finds itself. We live in a time when large-scale organization of society has depersonalized life to a point where the meaningfulness of individuals and small groups is hard to maintain, and where the right of individuals and small groups to influence their lives grows harder to exercise. The pace-setters of our time, whose major objective appears to be efficiency in the service of profit, have unfortunately turned their attention to the schools, as they did in earlier periods too. They are once again offering us models of precision machinery as substitutes for the unpredictability, trial-and-error learning, capacity for reflection, and range of feeling of the not-so-precise human beings who become teachers. To the economy-minded, efficiency of operation is a far more meaningful term than fulfillment of human potential, even when the reference is to children.

In the face of such trends, a fresh focus on the humanity of pupils and teachers, combined with a critical analysis of what is to be understood and changed in the interests of humanity in a changing world, is of far-reaching importance in educational, national, and perhaps even world history. Ours is the responsibility of educating a future citizenry that will understand what it means to maintain and extend the democratic ideas that give value to individuals and small groups. This has been said before in education, but it must be said again, and with fresh impetus, because its meaning is crucial and pivotal to the future: the distance between the sources of power and the people is growing too vast. The bridging of that distance is being fought by an engineering mentality that places efficiency and economy of operation above human need and concern, largely because it does not trust the potential of the human mind, especially its potential to ask questions. Such an engineering mentality would reduce teachers to insignificance by "foolproofing" the teacher's performance. The same mentality seems equally pleased for children to become as hollow as television cartoon characters.

Thus we are discussing the role of the teacher in the open classroom, which depends on human intelligence and feeling more than on anything else, at a time when powerful attempts are being made to inundate children's learning environments with such reliable materials that, so the theory goes, the most inept teacher will not upset their learning.

So, while it may seem obvious to us all, it must nevertheless be stated at the outset that at the heart of the concept of the open classroom is the living teacher, a thinking, feeling, exploring, sometimes fumbling, always questioning, deeply committed-to-children human being.

Although the tradition of the live teacher is historically ours, that tradition is so overlaid within the profession by outmoded attitudes that if these are not uprooted, we will be in no position to develop more flexibly conceived classrooms and we may yet be at the mercy of the efficiency experts.

First for us to consider is the heritage of a wholly inadequate and distorted perception of children, whom even kind and loving teachers still see as scores or grades somewhat more than as whole children for whom all kinds of factors affect learning. Second to consider is the still strong belief in the infallibility and finality of a sequential group of skills and assumed facts called "subjects," especially when these appear in authoritative syllabi. Deeply immersed as teachers and administrators now are in the values of the system they want to change, they are far more vulnerable than they realize to the false promises of efficiency via mechanical solutions. Far more than they realize, they still seek a package deal, a safe and surefire way of getting into open education, a formula that will not be called a formula, at the very least, a set of rules that will surely work. In their assumption that there must be an easy way, such educators are denying the complexity of the task and the seriousness of the struggle. Paradoxically, the very effort to systematize flexibility and openness, to insure predictable and certain results, to create a simple "do-this-and-this-will-happen" educational mode bypasses the goal of open education by a wide margin. The efforts to systematize are so at odds with the philosophy of open education that the concept is destroyed before it even gets off the ground. A return to the earlier emphasis on the live teacher will clarify the reasons why this is so.

If we could speak of one thing that most qualifies the role of the teacher in an open classroom, it is the capacity for using judgment, judgment in making decisions, in retracting decisions, and in assessing what the teacher and the children are in need of learning as a constant element in their lives. For example, it takes judgment to resolve social conflict so as to strengthen moral behavior, to make on the spot decisions, to know when to intervene and when to let the children struggle. It takes judgment to choose from among the many options in curriculum or to recognize a teachable moment. It takes judgment to decide on priorities and balances for many different individuals and to guide the selection of materials appropriate to their choices. But there is no package one can buy labeled Good Judgment. It is a human capacity that can neither be computerized nor systematized. It is the total integrated capacity of a mature human being to think and to feel rather than a set of courses or a set of specific characteristics like "warmth" or "a sense of humor," important as these still are.

Judgment has always been a most significant item in any good teacher's repertoire, but it is an indispensable item in the repertoire of the teacher in an open classroom. The reason is that the role revolves around an axis of teacher with child and child with teacher, of child with child and children with children, of children and teacher with materials and ideas. Into this interactive base is fed the content that gives the axis meaning. From this base of interaction grow the organization and routine that support a learning environment that is alive and growing. There is nothing mysterious or unmanageable about this, although the shift from traditional teacher management and control of preset curriculum to interaction with children, in which the teacher does not cease to be a teacher and in which learning is a truly intellectual experience, is hard to grasp and work out at first. It begins with teachers giving up their stereotypes and learning to be open to children and open to ideas in order that children will be encouraged to be open to people and open to ideas. That is what the open classroom is about, and while openness to people and ideas was always a part of a really good teacher's classroom, it must now become a more inclusive and sophisticated version if it is to be suitable to the complex times in which we live.

There is no model. The role cannot be methodically reproduced or imitated.

The vital force is a creative, flexible, and intelligent response to developing situations as these involve people and ideas. It is not laissez faire and it is not amorphous. There is, and there must be structure; there are, and there must certainly be, boundaries. But the structure serves the possibilities for openness, and the boundaries are flexible. Both are subject to analysis and change as the requirements of the learning demand change.

The strength of the teacher's role is completely and wholly related to the teacher's perception of herself as an adult, so that in a real sense, teachers will have to grow up if they are to function in open classrooms. They must reject at long last the insulting and humiliating nonsense on the part of those administrators, educational psychologists, and text book and materials manufacturers who presume that teachers are too stupid to know what to do unless a plan of action is carefully laid out for them in easy steps. Before they can function independently, teachers, of whom approximately 70% in the elementary schools are still women, must debunk the popular assumption on the part of largely masculine leadership that educational materials need to be created primarily for the purpose of thwarting the natural ineptitude of teachers.

The fact that the teaching profession has put up with such contempt and snobbery for as long as it has must be related to the low esteem in which teaching has long been held. (Remember the disparagement: "Those who can, do; those who cannot, teach.") But since women were allowed to become teachers of young children in large numbers, it must also be related to the secondary position women have been in for

centuries. Any doubt about this dual truth is quickly dispelled by a look at a phenomenon of the last decade. The day early childhood became financially rewarding and societally prestigious as a result of the political and social pressures that loosened government funds, men discovered it. They also ignored pretty completely the serious, careful work of scores of women over decades and quickly began to gloat over their discoveries and voice opinions like true authorities to large numbers of early childhood teachers to whom many of these findings were often old hat or sadly lacking in supportive evidence.

So when I speak of teachers at last growing up, I have in mind the fact that the average elementary school teacher, who is female, is too often cowed and insecure, expects to be told what to do, and looks to be told. But teachers who cannot trust themselves or their intelligence cannot develop open classrooms. Open classrooms can never come about by fiat from above, which is the way most innovations and changes in American schools have hitherto been introduced and which is why there is always room for a new panacea. But each open classroom must be built by the teacher and the children in it. This does not mean a reversal of the familiar teacher domination and control to domination and control by the child. The teacher does not abdicate the role of the adult in the process of altering her role as teacher.

One must immediately differentiate between teachers using judgment and their passing judgment, even when the latter preaches human relations and mental health. Administration has passed judgment on teachers, and teachers in turn on children for too long. Far too often, that judgment has been negative and punitive. As a result, how many of us who become teachers still know all too well the feelings of inadequacy, of uncertainty about our capacities and talents that well-intentioned teachers inculcated in us as they judged our childhood struggles by arbitrary, unrealistic standards of achievement locked into rigid guidelines for the given months of a given grade? Yet the teacher in the open classroom does not give up the responsibility for evaluating and assessing children's learning by ceasing to pass judgment. Her thrust is rather toward diagnosis and support of growth, not for condemnation and tracking.

How then does it all happen?

The Social And Emotional Climate

Because we value people, big ones and little ones, let us begin with the quality of the emotional and social climate created by the teacher in an open classroom.

The teacher, knowing and feeling herself a person, does not put on the teacher's hat of yesteryear. Neither her posture nor her voice take on the special look and tone of the person-in-charge, of the all-knowing, superior authority. Giving up the air of superiority does

not, however, mean giving up the leadership implicit in adult-child relationships. Children feel safer when they know an adult is willing to assume the responsibility for their well-being, can be counted on to take care of what they find too difficult, and is trustworthy in a psychological as well as physical sense. Children need and appreciate an adult whose judgment is in their interest, who is fair and who is kind. In such a climate mistakes are valued as part of learning, for teacher and children alike.

The teacher in the open classroom is an authority, but in the most far-reaching sense. She knows more than the children, and she has access to resources the children cannot dream of. She is impartial in a way that children cannot yet be, and so she is the guarantor of justice for everyone.

The teacher in the open classroom is not authoritarian, however. Her power is not drawn from status, from the ruler in her hand or the backing of the principal down the hall. Her power is in the children's dependency on her, and she does not abuse that power. She respects children and she asks for respect in turn.

Let me quote what Bertrand Russell had to say about the authority of a teacher in his Principles of Social Reconstruction:

> Where authority is unavoidable, what is needed is reverence. A man who is to educate really well and is to make the young grow and develop into their full stature must be filled through and through with reverence....The man who has reverence will not think it his duty to "mold" the young....The outward helplessness of the child and the appeal of dependence make him conscious of the responsibility of a trust. His imagination shows him what the child may become, for good or evil, how its impulses may be developed or thwarted; how its hopes must be dimmed and the life in it grow less living, how its trust will be bruised and its quick desires replaced by brooding will. All this gives him a longing to help the child in its own battle; he would equip and strenghthen it, not for some outside end proposed by the State or any other impersonal authority, but for the ends for which the child's own spirit is obscurely seeking. The man who feels this can wield the authority of an educator without infringing the principle of liberty.

By contrast, note the tone of disrespect for the intelligence and feelings of teachers and pupils in the following unit of competency training distributed to an elementary school staff. I quote:

> Procedure for movement in hallways, stairwells, and in street during trips

1. Active teacher involvement--position yourself in middle of class line.
2. Movement of short distances--wait for next teacher's direction.
3. Close lines--avoid gaps between children.
4. Tight control--minimum noise, etc.

Preparation of roll book

1. Cover roll book.
2. Keep at school at all times. Leave in locked desk drawer.
3. Insert pupil information--names, addresses, etc. List names alphabetically--boys pages 6-7, girls pages 30-31.

And so on.

Why would anyone think that that level of minutia and that tone of command are necessary to acquaint educated people with the most ordinary of social and clerical practices? Do teachers need to be told, "...Insert the children's names and addresses," or, "Cover your roll book?"

No, the relationship created by the teacher in the open classroom is one of people-to-people trust and honesty. It is non-manipulative, non-authoritarian; it is respectful and it is by common consent. Children can understand the reasons for social controls when they are really for the social good and not for the satisfaction of a petty tyrant or the arbitrary perpetuation of habit. Children learn to value group controls when their individual needs are considered and the possibilities for functioning in a group are thoughtfully supported. They do not necessarily arrive at this state of maturity by wishful thinking, and the teacher helps them to learn. But she does not condemn them for their immaturity.

The teacher in the open classroom does not hesitate to show her feelings, within socially acceptable bounds; but by the same token, she accepts the feelings of children and asks that they be within socially acceptable bounds too. The false sweetness of the well-modulated voice of the traditional teacher often concealed anger and resentment in both teacher and child and was neither honest nor open. Where respect has the chance to flourish, it can even lead to affection. The occasional outburst of distress or anger of teacher or child is hardly a matter of concern in such a climate. As in a family, the more lasting impressions of sincerity and honest attempts at communication, if these exist, will absorb the difficulties of relating that are bound to occur when human beings are in close contact with each other over time. But the teacher must be mature enough to withstand the normal immaturities of children and not be seduced into childish behavior herself.

Organization Is Essential

The teacher in the informal classroom is an enabler and expeditor. She organizes the room for productive interaction of people with each other and with materials and ideas. The physical structure and layout of a room thus support its ideology. Where does the teacher stand or sit? Where do the children sit? Whom do they face? As transitions are made to learning centers, teachers must ask whether some children still need their own desks or tables, and who are the children who can use learning centers comfortably. Space must be made available for individuals to work alone and to feed into group projects.

Together, teacher and children decide who will do what and for how long. Many children will need to be taught to do for themselves, even as teachers must learn the same thing. Children must be taught to use judgment, even as teachers must use it. And children must be held responsible for their decisions once they are involved in the decision-making, just as teachers are.

We know that skill learning follows an individual pace, and the teacher, as leader of the curriculum development, must provide for such individual learning as well as for whole-group projects. The interaction of individual and group on every level of relating, intellectual, social, and physical, must be provided for in the teacher's structuring of time and space, in the focus for activity that the teacher makes possible.

In providing for meaningful curriculum in terms of individual children, areas of learning have to be restimulated so as to be reflective and supportive of constant learning, without being overstimulating. Materials have to be ordered, created, and stored. Arrangements for their use have to be made and remade, down to the details of having paint jars filled, pencils sharpened, and other supplies available. The open classroom tolerates the ambiguity and incompleteness of process in the important areas of thought and feeling. But the practical implementations for work cannot be either ambiguous or incomplete. If you can't find a pencil, you can't write a fine story!

The planning, structuring, and focusing must of course relate to content. The day of the right answer must go. For example, we were all taught that there were nine planets, and we memorized their names. But we do not really know now how many planets there are, and that edge of uncertainty of what we know must be incorporated into the search for knowledge in school. We cannot predict that wars will always occur, because they are anachronistic in our one-world stage of communication and technology, and other ways must be found, or we will destroy ourselves. We cannot teach that technology will find the answer to everything, because the cost of total reliance on technology has been a threatening depletion of resources, and we really do not know what will be the best solutions for common human problems of survival or existence.

Content And Inquiry

Much of what children must learn in order to live in this world is already known to the teacher. But in an open classroom, a great deal of the learning will be new for the teacher, too. In the exploration of areas unknown to teacher and children, the teacher must take the lead in tracking down resources and information by virtue of being better prepared to take the initiative. Only then can she involve children in the search with a truly inquiring mind. But she must herself be a learner to stimulate learning.

There must be time to think, time to plan for both teacher and children, sometimes separately, sometimes together. Contrary to the traditional role of the teacher, for whom the syllabus defined the limits of planning, the teacher in the open classroom plans far more independently and inclusively than traditional teachers ever did. Knowing children well in a scholarly way as well as with intuitive responses, the teacher in the open classroom takes individual differences and needs very seriously, plans for them, and acts upon them. Knowing how open-ended are the boundaries of knowledge, she approaches the selection of content very thoughtfully. In bringing awareness of children's stage of growth and learning style into contact with the possibilities that can be explored in the world of intellect and esthetics, she makes decisions that will provide the kind of learning environment we call the open classroom.

But the planning, structuring, and focusing may never go beyond the first day unless the teacher knows what is happening to the children. In evaluating their growth and progress, all that she has learned about child development and the changing nature of knowledge must come into play.

Evaluation Is Part Of The Role

The teacher in the open classroom must be able to assess the development of the children she teaches along many dimensions--academic ones, of course, but also on social, emotional, and physical aspects of growth. We know now that feelings, physical competency, and social adeptness all facilitate or interfere with academic learning. The teacher must know the learning styles that are characteristic of the children she teaches and the quality of their interaction with others, herself included. She must also know what they come to school with in the way of total life experience and what they are interested in.

Thus, evaluation in the open classroom begins and continues with the teacher's perceptions, not with scores on standardized tests. Records of children's total responses become the basis for assessing a child, with scores a small and quite underemphasized part of that total. We know that tests lend themselves peculiarly well to superficial assessment and distract a teacher from careful diagnosis because

they become so easily a way of passing judgment. They are no replacement for the observations and records of a teacher who values all aspects of a child's struggle to grow, indeed recognizes that true learning is struggle, and can relate one piece of a child's behavior to another so that what he does makes sense, whether she approves of it or not.

In this way, the process of a child's learning is evaluated, and not only the end product. How does a child work? What stymies him? What interests him? What does he need to accomplish purposes set by the child, by the teacher, or by the child and teacher together? These are far more important questions than "What is his test score?"

In an open classroom, children are helped to participate in setting their goals, and they may need help to hold to them. They must learn to complete what they start, not because they would otherwise be lazy, unproductive children, but because learning to persist and to become responsible for one's own learning is a necessary developmental task of childhood. We must assume that a normal human being enjoys being competent. It makes him feel good. But becoming competent is often a struggle, and if a child is not able to experience competency, there must be reasons. A teacher's unbiased observation and records without value judgment lead her to the only step for which evaluation must be made, that is, to question what might be the reasons for the interference with growth and learning and what might an adult do to support growth and learning.

Looking for the strengths of a child even as one observes the weaknesses, the teacher seeks ways of using a child's strengths to help him tackle his weaknesses. A mind open to learning and a spirit open to growth are far more important goals for the elementary school child than a series of scores that compare a child with all other children in an artificial distribution of placement around a mean that distorts the purposes of learning to begin with.

The School Must Be A Community

And finally, the role of the teacher involves interaction with colleagues in establishing a school climate of which her class is a part. With other teachers, she searches for better understanding of children and curriculum to create a total setting of openness in which all can function. As the staff support each other, so each teacher can better support each child.

A new mode of thinking is called for in the informal or open classroom, a mode that recognizes the complexity of life and the complexity of the human struggle to cope. As a partner with children in a common striving to learn, the role of the teacher is to fulfill the human potential of the children. And she does this best as she fulfills her own potential for openness to people and openness to ideas.

PART II:

THEORY INTO PRACTICE

HOSTILITY AND HUMOR IN THE CLASSROOM
or
"What's The Matter, Can't You Take A Joke?"

Peggy Manring
State Street Elementary School
Skaneateles, New York

Why do we laugh? Although the question has always interested me, I wondered if the answers would extinguish the spontaneity of any humorous situations to come. Eventually, I began to collect and read articles specifically about children's humor. I read about how the perception of riddles develops (Brian Sutton-Smith, 1973). I became interested in "incongruity humor" (Paul McGhee, 1972), and the reasons for laughter at slapstick (Martin Grotjahn, 1970). But reading about why children laugh jogs the memory. One wonders, "Why does anyone laugh?" I rubbed out the boundaries between child and adult humor, and read to become acquainted with all kinds of humor.

From the reading, I began to formulate questions about hostility and humor. That particular focus provided a direct link with my teaching. Many times I had observed children in my classroom combine hostility and humor as they communicated with each other. Any mixture of aggression and humor presents a problem of interpretation to even the most socially adept people. To children this is a problem of great importance because they are not socially adept.

Aggression and humor are mixed daily in most classrooms. It seems to be one of the ways children try to influence each other. I observed confusion in the reactions of the "message-receivers," especially when hostility was well disguised as humor. Most often the hostility came poorly disguised as humor. I watched children confronted with this ambiguity resort to violence, some to withdrawal, and others to friends for help in interpretation. All of the children I observed seemed to experience some amount of confusion.

I began to ask many questions: 1) Exactly how is the humor in the double message expressed? And, how is the hostility expressed? 2) Can children learn to see the separate parts of the double message? 3) Does the ability to analyze enable those children to deal more effectively with ambiguous messages? 4) What methods can I use to help them eliminate their confusion when they are confronted with hostility garbed in humor?

I felt the need to develop a curriculum around those questions. My primary goal was to help children develop the ability to analyze

message-giving and message-receiving. I remembered Fritz Bell's workshops on body language and communicating with varied inflections. I re-read his book, Let's Create (1972) and began jotting down ideas for curriculum development.

Development and Implementation of the Project

I began this study in March with my own class of 25 2nd-graders. Their ages ranged from seven to nine, and they were all from lower middle-class or middle-class families in a small town. During the year they had been free to move around the room at will and speak with their friends. With this free interaction I had many opportunities to observe and record their communication.

I spent the first week of my study recording the body language of humor in the room. Besides the percussive sounds of laughter, simultaneous talk and knee-slapping, there were many visual clues to humor. Ronald Langevin (1972) in his essay on physiological correlates of humor made the point that these visual signs of "expenditure of energy" are "correlates and not conditions of humor." I observed many of what must be universal clues to humor: smiles, squinting eyes, reddened faces, shaking shoulders and bodies doubled over with laughter. I noted that many other body movements, when coupled with a smile or laughter, become a part of the body language of humor. These include the body in mimicry, the shrug, the hands on hips position, the waggling finger, and many, many others.

This readily identifiable language of humor can take on many meanings depending upon the tone and words that accompany it. Tone, words, and body language together form the humor type.

A distinction is commonly made between (a) clowning or laughing with others and (b) sarcastic humor or laughing at others. (Goodchilds, 1972). Humor of this "laughing with others" type eases an interaction. Participants in the humor feel reinforced and not threatened by the affect and words they exchange, and hostility, if any, is well disguised. By contrast, laughter of the "laughing at others" type is based on a release of hostility poorly disguised as humor. The hostile words accompanied by smiles and slaps on the back are both confusing and threatening to the child receiving the message.

During the second week of the study I made anecdotal records of hostility disguised as humor. I have included some of the most typical exchanges in the appendix for further reference. I will analyze one here.

> Robert had stacked the game cards so that Mark would get "bad" moves and lose the game. As the game progressed Mark became more and more upset. He called Rob a cheater and as his voice got louder Rob laughed and shrugged as he clapped Mark on the back. "It's

a joke, you baby," he grinned, his head close to Mark's. "Can't you take a joke, YOU BABY!" Mark looked at Rob, at the other boys, at the game board, got up and went to his seat where he sat and appeared to sulk.

This kind of interaction was typical with this group of boys. Even more representative would have been an overturned game or a punch to seal the disagreement. We see the elements of hostility quite clearly: the premeditated trick, the feelings of being threatened that Mark displayed when he accused Rob of cheating, the combination of Rob's humorous body language (smile, shrug, clap on back) with hostile words ("You baby, can't you take a joke?") and a tone that was initially soothing but became teasing. It is a double message: both hostile and humorous. How Mark interpreted it we can't be sure but we can guess from his withdrawal. When asked about what happened Mark said, "We wanted to play the game but Rob's cheatin' and they're all sayin' I can't take a joke." Mark felt the hostility. I wondered why a child who usually resorted to hitting would withdraw instead. I guessed it was because he was confused by the double message he received.

Each anecdote contained combinations of humor and hostility. When I questioned the children after I observed the interchanges I always asked, "Will you tell me what just happened?" In every instance the child who received the message conveyed his confusion and hurt but was unable to explain why. I sensed quite a lack of ability to identify and communicate feelings. In several cases as soon as the child had revealed his hurt it was dismissed with a smile or a shrug.

The third week of the study I spent planning group discussions. We had the first one towards the end of the week. All of the children were present.

Group Discussion #1: What is funny?

We sat in a circle on the rug. I asked the children to think for a moment about reasons why they laugh. I told them to think about the last time they laughed or, a funny person they know. The responses came quickly and I scribbled them down verbatim, much to their delight. After I had recorded the responses of ten children, two of them said they noticed that some people had the same reasons for laughing. One said, "That's sort of the same as what Megan said, you laugh 'cause someone was surprised." Another said, "I guess we all laugh when somebody slips and looks funny." Later, when I looked over their answers I could categorize them:

1) Laughter because of a violation of their own physical expectations.

2) Laughter because another person experiences a violation of his expectations.

3) Causing a reaction and laughing at it.

I am interested in the answers that fell into the last two categories. One involves laughter at another person's surprise or misfortune. The other involves a child provoking another and laughing. Both situations can become ones where hostility is linked with humor.

The next two days the children were busy pointing out things they thought were funny. Sometimes they would disagree. I did not direct or record any of their disagreements. I wish now that I had made time to pursue them in discussions with the class. That would have made a natural transition to the analysis of messages which followed the next week. It might also have made the following discussion more relevant.

Group Discussion #2: Words and Tone

I wrote the word "YES" on a piece of paper and I asked a child to say the word. She said it flatly. I asked the child next to her to guess what the "YES" meant. He said, "She probably means yes. I don't know. I can't really tell." When I asked him why he didn't know he couldn't answer. Other children wanted to try saying "YES" so we listened to them and after each one I asked what the speaker meant. Some of their answers:

"That one means no! Lee means no but he said yes."
"I think Susan means maybe."
"Tammy looks real happy."
"I think Roger's mad."

I asked them how they could tell what each "YES" meant.

"Well, you can tell. It's easy. You can just see."
"Sometimes their face looks sorta sad or happy."
"It's the way it sounds, too. You know your voice goes up or down or zig-zag."

I drew a zig-zag line and asked, "Like that?" Several children tried varying their tones to fit the line. I drew my impression of each "YES" and offered the marker to them, one at a time.

Next, we tried sentences. At one point Tommy raised his hand and said, "You know what we're doing? We're changing our tones." I wrote "tone" on the chart. After some experimentation with high tones and low tones and wavy tones and angry, sad, and happy tones I summarized what we had done. "We can mean different things even though we all say the same words. Tommy says the way we do this is by changing the tone we use. If you change the tone you can change

what you mean. It's fun to do. I wish you would think about tone when you talk during the next day or so and tell me what you find out."

During the next day I commented on tones I heard and I noticed a few children experimenting alone. They must have been thinking about our conversations though, because in the following group discussion some of the children related experiences they had had at home.

Group Discussion #3: Words and Tone and Body Language

I took out the chart we had used when we talked about tone and I asked if anyone wanted to share an idea about the way we use tone to let people know things. Andy said, "Sometimes you can be mean by doing that, I was thinking. Like on the cartoons it's mean but it's funny. Like when somebody says, 'Sure, I'll fix you up,' they really mean by their voice that they'll kill the guy." When Andy finished some of his friends nodded enthusiastically and many of the children tried saying his sentence. Their tones ranged from high and loud to low growls.

As some added menacing gestures to their words I called out, "Now what are we using? Tone, words and something new." Andy said, "It's like on the cartoons, too, only the guy was rubbing his hands when he said it." I jumped to write "body language" on the chart. I thought later I might have let them label it themselves. I explained, "One word you can use for what you do with your body is 'body language.' Think for a minute about what you can do with your body when you are angry."

The response to this was wild. They gesticulated and mimicked, adding words and tones. When I asked for quiet, we remade the circle and I said I had one more experiment for them. I wrote the words, "Don't do that" on the chart. They experimented with this new sentence and varied the tone as we had been doing. I asked them to try saying it in a happy tone. As each child tried it, the group laughed, and when I asked what was so funny, Heather replied, "Who would listen to you if you said it like that?" Joanne added, "See, you don't mean it if you say it nice." Megan said, "If I said, 'I'll play' in a mean way I wouldn't really mean it." Susan said to Megan, "Yea, I sure wouldn't play with you."

We ended our discussion there and went to gym. On the way I heard people using contradicting tones and words. "I like you, Rog," Andy growled at his smiling friend!

Group Discussion #4: What Do You Mean?

We began by making a circle on the rug. As we did Tim said cheerily, "I know why we're doing this. It's so we can see what we

mean!" I asked how and he replied, "You see what the body does when people talk and you know what they mean better than if you didn't see." We reviewed different kinds of body language briefly displaying anger, joy, loneliness, and sorrow.

Robert offered, "There's words and tone, too." I asked him to read the "I'M SORRY" on the chart. He read it and then stopped to ask, "Do you want me to mean it?" I told him to go ahead and read it any way he liked. He used a sincere tone, scowled and bumped Tommy. Everybody laughed and when I asked them why, they laughed some more. I told them I'd like to show them what Rob just did. I made the following diagram:

	"I'M SORRY"		
	words	tone	body language
Rob:	+	+	-

Kara said, "Oh, I know what that means, it means his body language was bad." Lee interrupted Kara to say, "I can do something else. Now wait." He paused to straighten his thoughts. "Maybe I can't do it. I don't know. Here goes."

After two muddled attempts Lee said, "I'm sorry" with a growl, hands in pockets and head bowed. I was so surprised that these children were not only following this and considering three variables simultaneously, but also leaping ahead of me and each other. I recorded Lee's example on the chart.

	words	tone	body language
Rob:	+	+	-
Lee:	+	-	+

Many children wanted to tell me about what Lee had done. Some wanted to give more examples of mixed meaning. Susan, who had been sitting outside of the group, moved into the circle and announced she had a "good idea." She looked down at her lap, held very still and said with a curled lip, "I'm sorry." Her eyes flashed as she looked up. It was a captivating performance and no one spoke. I complimented her and Meg said, "She looked at first like she was going to mean it but, then I saw her eyes and she didn't." I diagrammed that, since everyone agreed that Susan had meant she was not the least bit sorry.

	words	tone	body language
Rob:	+	+	-
Lee:	+	-	+
Susan:	+	-	-

Tom nudged me and said, "I know one more thing is three pluses." Under his direction I diagrammed this and then asked the rearranged

circle of children to comment. They all clamored to perform, using phrases like "I'm sorry," with words, tone and body language all matching the meaning. It was difficult to repeatedly clear center stage, but I tried. I was surprised with the many uninhibited portrayals of remorse.

Group Discussion #5: The Meaning of the Chart

I took out the "+ and - chart" to review it. As we settled into the circle, Tom raised his hand: "Me and Robert figured out yesterday that the only one that means it is the three pluses." I said, "You know Tommy, I think you're ahead of me. I'm not sure I had thought about that so carefully!" Meg said, "Yeah, I knew that; whenever there's a dash on the line the whole thing means you don't mean it." I commented to Tom and Meg that most of the children looked confused. Tom carefully gave an example of each diagram. He was interrupted a few times by children who weren't listening but he continued and as he did there were a few nods. Some registered no response. We left it at that.

There was a group of about nine children who seemed to follow these discussions with great concentration. About four others followed, concentrating sporadically. From the examples they gave and from their enthusiastic participation I could tell that about eighteen of the twenty-five children grasped the idea that you can change what you mean by using tone and body language in different ways. The seven remaining children listened at times, talked about unrelated subjects, asked to take drinks at inappropriate times, and lagged behind the rest in interest and comprehension in general. I tried to engage them in the conversations at times but mostly without success. I did not know how to reach them.

Group Discussion #6: Role Playing

Anxious to model a double-message situation involving hostility garbed in humor, I asked two fourth-grade boys to work with me on a role-playing situation that would be close to the children's experience. I gave each boy a name to wear. The production was to go as follows:

> Two boys are building block buildings side by side. "Bill" is making an intricate model of Expo '76. "Sam is building and knocking down his own building. Slowly Sam's hand creeps over to Expo '76 and with a quick push knocks over the building. He laughed uproariously as it falls. Bill sits and looks on in disbelief. He says, "What d'ya do that for? That was my best building and you wrecked it." Sam, still laughing, claps Bill jovially on the shoulder and says, "Sor-ry! Can't you take a joke?" Bill jerks

away and says levelly, "You sure don't sound sorry to me. You make me mad. I'm not stickin' around you." He moves his blocks. Sam sits and looks without saying anything.

The actual role playing did not go smoothly. I narrated and on occasion had to prompt a line which took away from the meaning. Comments from a rapt audience distracted the actors. When it was over the children revealed quite an understanding of the message Sam gave.

Tammy was the first to comment: "He was wiggling like laughing and he wasn't going to tell the truth. He looked like he was enjoying himself." Rob added, "He was moving around like he didn't mean he was sorry." Martha said, "His tone didn't mean the same as the sorry that he said." I commented that I'd seen this happen in the room before and I asked them to think about what usually happened when someone knocked a building down. They came up with a list of reactions: knock down the other guy's, hit him, punch him, hit him, leave. When I asked what Bill did they said: he left, he moved away, he wasn't going to stay, he said he was mad, he said how sorry he sounded.

Conclusion

I know I learned as much as these children appeared to learn. Their comments and behaviors revealed much more understanding than I expected to find. Not only could they explain and use the concepts and vocabulary of communication, but at times they were steps ahead of my thinking. Consider, for instance, Megan's and Tom's comments about the + and - variables and the whole meaning of each message: "The only time you mean it is when there are three pluses."

After the last group discussion I noticed on three occasions children confronting each other about message meaning. "You don't sound like you mean it, Kara," and, "You don't really want to play, do you?" I heard the word, "tone," mentioned just once and I did not hear the term, "body language" used in the room.

Introducing the general concepts of double message making and receiving to the class as a group was valuable. But, I believe my approach should have included working with individuals as well. For the remaining month of the year I brought double messages involving humor and hostility to the attention of the senders and receivers as they occurred. I began to use questions and comments such as: "Think about the message you gave to her. What kind of message was that? What will she think you mean?" And for the receivers, "What can you tell him about the message he gave to you? What can you do if you are unhappy with what you heard and saw? Try telling him."

This class was the least cohesive class I have had. I know this is partly because much of my attention was directed toward two of the 25 children. I was unable to work consistently with the class

on developing a sense of "group" until midway through the second term. Next year I will precede the communication exercises with many group meetings. I hope that by developing a greater feeling of community in my class, communication among the children will improve. I have found that a sound sense of community is necessary for good communication.

Postscript

The following are anecdotal notes on incidents involving ambiguous messages combining hostility and humor.

3/18

Mona had just joined Brownies. She expressed concern to Kara that she wouldn't get to the right place after school. Kara offered to go with her. At the end of the day Kara said, "Maybe I won't go to Brownies today after all, Mona." Kara smiled, "Can you get there OK?" Mona looked frightened and sat. Kara put her arm around Mona and laughed, "Oh, Mona, you baby, I'll go. Ha-ha!"

3/19

Ken had invited Steve over to his house after school. It was all set for the next day if it was OK with Steve's mother. Steve was very excited. He followed Ken around talking fast and loudly. Ken began to ask Steve to do things for him. Steven complied. Ken said, "I might have to play with Jamie after school tomorrow." Steve looked very concerned, "But you said I was coming over." Ken laughed and put his arm around Steve and said, "I'm only jokin', Kid. Ha!"

3/19

Heather and Joanne were planning to do a puppet show. Julie wanted to be in it. The two girls stood not far from Julie and whispered about how they could do it better alone. Julie looked uncomfortable. Nervously, they approached Julie and said giggling, "You can't be in the show, Julie." Julie made a small smile as the girls hid each other's face in a strange dance. The twosome raced off laughing and looking back. Julie came to me in tears saying, "We were going to do it together. Now they think it's funny."

3/20

Meg was working on copying a story onto white paper. She noticed a misspelled word and she asked Ethan to help "spell a word." He leaned over his friend very carefully and spelled, "a, w-o-r-d." She printed slowly

pressing hard. Lisa leaned over and read what Meg had written. Meg realised what had happened and looked at Ethan who was grinning. "I just thought I'd help, that's all!" he drawled as Meg began to cry.

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ANGRY ACTS AND ALTERNATIVES

Susan Dalziel

Project Change
State University of New York at Cortland

The majority of discipline problems arise from a two-dimensional source: angry feelings and angry acts. Angry feelings are as human and as natural as any emotion. Angry acts may have to be refocused.

Practitioners in the Haim Ginott art of "childrenese" know well the benefits of helping children to identify and express their feelings. When a child is experiencing anger, it is very often sufficient for the adult to say, "That must make you very angry;" or, "You probably feel very angry inside when he does that." In an atmosphere of such understanding, a child may not need to act out his angry feelings.

However, the feeling of anger is sometimes so intense that it cannot be assuaged. Understanding words are too little, or come too late. In such cases--when an angry act has already taken place, or is about to--our guidance must be of a different nature.

An active teaching approach to this domain of the emotional life of children is to help them think about and utilize acceptable means of expressing anger. The following conversation between a teacher and a child is a good example of how to begin.

T. What do you do when you're angry, Jim?

C. I don't know.

T. Can you remember the last time you were angry and what had happened?

C. I think it was when I lost a little Easter bunny. I thought Robert hid it.

T. Were you angry because you lost it, or because you thought you were being tricked and didn't like that?

C. Because I thought I was being tricked.

T. How did you show that you were mad?

C. (Clenches fists and raises arms in the air; also conveys anger through facial expression.)

T. What does your sister do when she's mad?

C. Cries mostly. Or talks--she's always talking!

T. Can you think of other things that people do when they're angry?

C. Sammie says things like "grumble, grumble, I HATE IT!, grumble, grumble, STUPID!" Jackie fights--she punches people. Once I punched her in the nose.

So often, the only focus a child knows or is aware of in anger is to hurt something or somebody, including himself. When an act of anger occurred in my classroom, I always asked the child, "Do you know some other things you can do when you are angry? (Besides hit someone, break something, yell, etc.)" Without exception, the answer was no. That does not speak well for adults--responsible for serving as models to children. We need to demonstrate some alternatives in our own behavior, suggest and emphasize alternatives to children, and allow each one the freedom to choose and practice what is most helpful to him. This involves decision-making and responsibility for inner controls, as opposed to external ones.

Here are some suggestions for alternatives, from the realm of classroom teaching:

1. Let the child keep a ball of clay in his pocket or cubbyhole. Suggest that when he feels angry, he may want to take it out to knead and pound.

2. If the children are given practice establishing an awareness of time (e.g., experiencing how long 5 minutes or 10 minutes is, in a variety of contexts), they can handle the following suggestions:

   a. go for a 5 minute run--around the building, field, block, etc.

   b. swing for 5 minutes (out on the playground)

   c. take a 10 minute tour of the school

   d. help the principal (pass out notices, etc.), or nurse, janitor; cook for 10 minutes (doing things which require expending energy)

3. A woodworking bench, where one can hammer and pound, is an excellent outlet for anger.

4. Let the child leave the room to walk up one set of stairs in the building and down another.

5. "Scribble (with large sturdy crayons and plenty of paper) as hard as you like for a while."

6. Many kinds of gymnastic equipment provide tremendous alternatives in anger: tumbling mats, jump ropes, hula hoops, basketballs, volleyballs. All are fairly common, and great for this purpose. A punching bag is the greatest of all and can be easily improvised.

7. Some children prefer to let their anger drain away quietly and soothingly by:

   a. listening to soft music

   b. reading or being read to

   c. playing in water or sand

   d. sitting alone away from the class

   e. writing about their anger

   f. drawing an angry picture

   g. watching an aquarium while being talked to

   h. being able to choose their favorite "quiet thing" in the classroom

8. For the small child or the one who seeks out positive physical contact, hold him and say, "Hug me as hard as you can. Harder. HARDER!"

9. "Use the musical instruments--drums, sticks, shakers, etc.--to make up an <u>angry song</u>."

10. (With adult guidance) "Act out your anger in <u>slow motion</u>." This one usually results in fits of giggles.

11. Cleaning--with meaning. Some children are particularly fond of cleaning chores. As an angry act alternative, a list of things that need scrubbing can be posted and kept up to date. This avoids thinking up a perhaps meaningless task on the spur of the moment when the need arises.

12. Utilize the housekeeping area. In that area, have a particular set of clothes available for angry moods, a particular set of objects, and suggested activities--all for the purpose of role-playing the anger-arousing circumstance. Making up and establishing a character for this purpose is ideal. (Some storybook characters

lend themselves well to this: "Grumpy" from Snow White, "Eyore" in Winnie-the-Pooh.)

13. Post a sign and accompanying "face" in the room that says "I feel angry." (There should be similar places in the room for other emotions.) Have a chair or pillow or rug stationed under the sign so a child can sit there when he's angry. This causes the teacher and other children to notice him and respond before the anger causes negative disruption.

14. Have a huge stuffed animal or character, seated in a corner or chair, large enough so a child can sit on it and talk into its ear (gimmick: make one ear extremely large).

15. Use the puppets to act out the incident and the anger that resulted.

16. Say it all into a tape recorder.

17. Go outside (and away from classes it might bother) and yell it to the wind.

18. Let the child talk to you for 5 or 10 uninterrupted minutes of listening--preferably in a special place away from distractions.

19. Try humor--it may backfire but with certain children it's surefire.

There are basically three ways to cope with anger--you will note them being used by children and adults alike. Some need a physical outlet for anger. Others are extremely verbal when angry and need alternatives which will allow them the freedom of verbal expression. And some of us are neither verbal nor physical yet recognize certain quiet responses as a means to cope with anger. I'll leave it to the psychologists to argue pros and cons of one approach versus another. The purpose here is to state (1) that those three kinds of responses exist, (2) that a child may consistently use one, or may vary in his response depending on the situation, and (3) that acceptable alternatives should be available for all three kinds of responses.

Although these particular ideas evolved from classroom teaching, I have presented the thought of alternatives to groups of parents and administrators with some exciting results. The first step was to ask each one in the group what he or she did when angry. The next question was "What do your children do when they are angry?" Noting parent-child similarities became obvious. The follow-up discussions of alternatives within the home were alive with the give and take required in family living. One mother said that a warm bath dissolved

her son's anger every time. An administrator recalled an incident with a high school youth in which the two of them nearly came to blows. With much insight, he and the youth walked out the front door of the school, agreed to walk in opposite directions around the building, and decide when they met out back whether or not a physical resolution was still necessary. When they did meet, it was no longer in anger, but with a mutual handshake.

By way of summary, the following techniques are really basic to the whole approach. They are threaded through it and make it work.

1. Primarily, the alternatives devised and decided upon have to be acceptable to the adult. The adult has to cope with them and believe in them.

2. Secondly, the alternatives must take into consideration (a) the nature of children, (b) any limitations of that particular school--such as rules that cannot be by-passed, space that is not available, the amount of cooperation that is available, and safety considerations.

3. In all cases it is <u>most</u> important for the adult to make every effort to help the child realize that (a) his <u>emotion</u> is acceptable, (b) his emotion is <u>understood</u>, (c) the suggested and/or chosen alternative action <u>is an acceptable way to act out his anger when necessary</u>.

After a time, the children can individually or collectively suggest other alternatives. It should be remembered that childhood is not a time of adult reasoning. Initially the children are likely to be more oriented toward moral values in their thinking, and suggest rather severe "punishment" and/or judgment. Therefore, some time is needed to establish the climate and consistent practice first.

Finally, it is almost always true that the child who is learning to cope with his anger needs and wants to be <u>alone</u>, when acting it out. Doing a job, sitting quietly, going for a brief walk or swing--if done with a group watching or tagging along--almost defeats the purpose. An attitude of compassion is already strong in children and can be fostered, so that when one is experiencing great anger, the rest understand. As Montessori so beautifully put it, they will wait, then assist him towards recovery--as if from a temporary illness.

TOWARD AESTHETIC EDUCATION:
A PERSONAL EXPERIENCE

Judy Clouse

Dryden Elementary School
Dryden, New York

I have recently developed a personal interest in aesthetic expression and appreciation which has greatly enriched my work as a teacher. As part of this interest, I have come to love to paint and draw. This activity has deepened my valuing of children's aesthetic expression and my ability to support its development in my classroom.

I began my exploration of aesthetics by reading Sir Herbert Read's book Education Through Art. I hadn't gone far before I came to the question, What is art? I felt a great need to wrestle with this question in my own mind and to find out how others had answered it. After Read's book I eagerly dove into Gombrich's Art and Illusion.

I find that I cannot define art except in very personal terms. It consists of the aspects of form, color, balance, rhythm, symmetry, and composition, but it is also much more. It is an experience which can totally consume a person's energies. It is a way of looking at and evaluating the world. It is an aesthetic experience.

By "aesthetics" I mean an appreciation for quality; it's like the feeling aspect of perception. That's a crude definition, but the idea is important to me. As a teacher I feel that children should be exposed to aesthetic experiences in all aspects of their learning. This exposure can take many forms and should indeed be provided for in a variety of ways.

I chose to begin with materials. If you take a moment to look around in your classroom, it soon becomes obvious that most materials we expose children to are made of plastic or paper. We seem limited in our use of resources. In many cases paper and plastic materials work fine, but what responses might we elicit from children if we used wood or cloth or some combination of recycled natural materials?

Children respond to such materials in the same way adults do. It is nice to feel wooden playing pieces and to study the grain of the wood and the textures of different pieces. It adds a whole new aesthetic dimension to a simple game experience. Using a carpet square as a game board makes for a quieter game as well as giving the game an added textural dimension. Hand-drawn and painted pictures on game cards give a child a sense of human participation in the creation of his game. He knows that a person made it, and that

is an idea he can identify with and respect. A game which uses common materials such as linoleum pieces or drapery fabric or wallpaper samples extends the child's experience even further as the child tries to discover where it was that he has seen or felt that material before. These are all processes which I have watched children go through as they use the materials I have provided for them. They are exciting processes to witness.

Besides creating aesthetically pleasing materials for my children, I became personally involved with drawing and painting. I had had the interest and materials for a long time. What I needed to add was the prime ingredient--time. Forcing myself at first, feeling a lack of confidence and lack of ideas, I gradually found myself becoming extremely protective of my time for painting. Painting became for me a source of true inner satisfaction, something which I looked forward to doing and which I <u>needed</u> to do.

This personal learning experience began to affect many aspects of my teaching. In my personal life I was frustrated when my other "responsibilities" interfered with my desire to paint. This made me realize the need to give children adequate time for spontaneous artistic expression, whether it be in the form of painting, music, or movement. This needs to be non-directed time in which this inner feeling or image can come out in some form. Otherwise, children will remain totally unaware of their capabilities in this vital aspect of their development.

I have found through working with young children that you cannot assume that they will be totally uninhibited in this expression. They, too, may feel a lack of confidence and lack of ideas. They need to be encouraged to move freely or to paint freely and to be themselves in all forms of expression. Unfortunately, many children of school age have already mastered the art of conforming, to the sad extent of not being able to express themselves when given a chance. We must increase the opportunities to help them to develop free expression. We can "teach" children how by being open in our own expression and by providing as many different kinds of experiences as possible which deal with rhythm, symmetry, sensory awareness, and patterns of movement and behavior.

Music can be a great stimulator for a wide variety of aesthetic activities: listening for different sounds or for different instruments; moving to a rhythm, with all or part of the body; expressing a mood or feeling; portraying a story; creating a group or individual dance; painting to show mood or tones, patterns, tempo; relating sounds to colors; developing and expressing critical opinions about various music forms. At times I have put music on simply as a background while the children were painting in individual or group projects, or while the class was involved in some other activity. It's amazing how eagerly and quickly kids will help clean up or do exercises with the proper musical stimulus! Music can also serve as a soothing factor which can calm children down after a high-activity

time such as recess or gym class.

I have also used music as the major part of an activity. Just before Christmas, my class listened to parts of the "Nutcracker Suite" after viewing a filmstrip. The filmstrip was old and brittle and kept breaking, something I hadn't planned on but which worked out well after all. I finally had to just give up on the filmstrip--which disappointed the children. I asked them to just listen to the rest of the record and try to imagine what might have happened. They all got paper--their idea--and we started the record up again. The paintings that resulted were wonderful. We put them into a book, and the children individually dictated what they wanted written about their picture. Because we hadn't seen the "real way it's s'posed to look," as one child put it, the children were quite eager to defend their own interpretations and to make up their own stories for the music.

I have found the music of the Beatles to be especially intriguing to children. A good relaxer and mood-setter for loosening up is the Beatle song "Hello - Goodbye". It has simple lyrics made up of opposites--"hello - goodbye", "stay - go", "yes - no"--which kids sing along to and can sing back and forth to each other. "I Am The Walrus", a song from the Beatles' Magical Mystery Tour album, is another my class has enjoyed. It's great for movement activities since it contains a variety of tempos and rhythms, and it evokes imaginative responses when children are asked to act it out. I had one group of six 2nd-grade boys all crowd into the hole under my desk as they portrayed a scene where, according to the [illegible] leader, "a giant whale swallowed us up!" Another group using the same music had portrayed a trip into space and the meeting of space monsters.

Sometimes I like to use instrumental music so that the words don't distract from the actual music. For movement activities I like music by Mason Williams, ("Classical Gas"), Paul Mauriat, ("Love is Blue"), and Tijuana Brass, ("Tijuana Taxi"). Soundtrack recordings from movies are also very stimulating and usually offer a wide variety of music. Symphony music is also good for a change of style; I have found that very few of my students have had much exposure to orchestra music. Instrumental music is especially useful for developing good auditory discrimination skills as well as an awareness of the different moods which music alone can spark, and the various feelings and senses which it can stimulate.

Sensory awareness is extremely important and is usually neglected in the grades above kindergarten. Children must learn through all their senses, not just through seeing and listening, which get the most attention during the school experience. They need to feel different textures, to work with different kinds of substances and materials, especially with basic natural materials in the real context of nature.

An activity which I have done with my class recently is what we called a "materials scavenger hunt". It began by having groups of

3-4 children make a list of all the different materials they were able to find in the room. After about 15 minutes, the groups came together and we made a master list.

The next day I had listed each material separately on a card, and each group was given a set of the cards. I asked each group to sort out the materials and try to put together those which they felt were alike in any way. This was interesting to watch and proved to be just the beginning of an involved discussion.

After this classification, the groups were asked to come together again. They were all excited, since no group had agreed upon a way to classify their materials which all members felt satisfied with. Some insisted that the materials must be grouped according to how they looked, while others argued for the way the material felt or the way it was used.

Needless to say, this activity is still being worked on and could easily lead us into many new areas of study and learning. Several of the children have taken similar surveys of their homes and others are trying to collect samples of all the materials they found in the classroom. It is my hope that through such activities these children will gain an appreciation for the differences in materials and that they will be able to apply this knowledge to their own lives.

Through the integration of sensory, motor, and logical experiences, a child, as a person, can begin to appreciate life in an aesthetic sense. Through balance and symmetry, proportion and rhythm, our experience is organized into patterns which work right for us, which feel right. Our senses are heightened and we experience aesthetic enjoyment. This applies to all aspects of education: to the development of social skills and a sense of morality, as well as to the gaining of knowledge.

To help children develop a sensitivity to order and beauty and quality, we must, as teachers, be ourselves involved in aesthetic experience. If you are personally involved in some form of artistic expression, you are bound to be more sensitive to the processes of development as they occur in children. Through my own drawing and painting, for example, I have developed greater respect for my children's efforts and greater empathy with their feelings.

As teachers we must also evaluate the aesthetic quality of our classroom environment, beginning with materials perhaps, but considering all aspects of that "mini-world" we require children to live in each day. That world must be extended beyond its walls and be made rich with experiences and activities which broaden the children's lives.

Following this, I would recommend a good hard look at the art activities you are providing for your students. Ask yourself these questions about your art program:

1. What do I want art to be like for my students?
2. Do the activities I provide give the children a creative part?
3. Is there room for individual expression in each activity?
4. Do my art lessons extend into other areas of the curriculum or are they isolated?
5. If they are isolated, do they have real meaning in themselves?
6. Do I provide opportunity for further exploration of the activity on the child's own chosen time?

As you begin to seriously consider such questions, the process of establishing a better aesthetic experience for children should follow more easily. The whole idea of "art class" may gradually become broadened to more of an "art influence" in all areas of learning. As the students begin to explore the aesthetic elements around them, they will bring art into more and more aspects of their lives and their lives will become of a higher quality.

We are at a point in human history where an appreciation of the quality of life must be born and nurtured in all of us if any of us are to have a life with any quality in it at all. Zachary Clements made a statement which sums up my own feelings about the need for an aesthetic emphasis in all areas of education. He said,

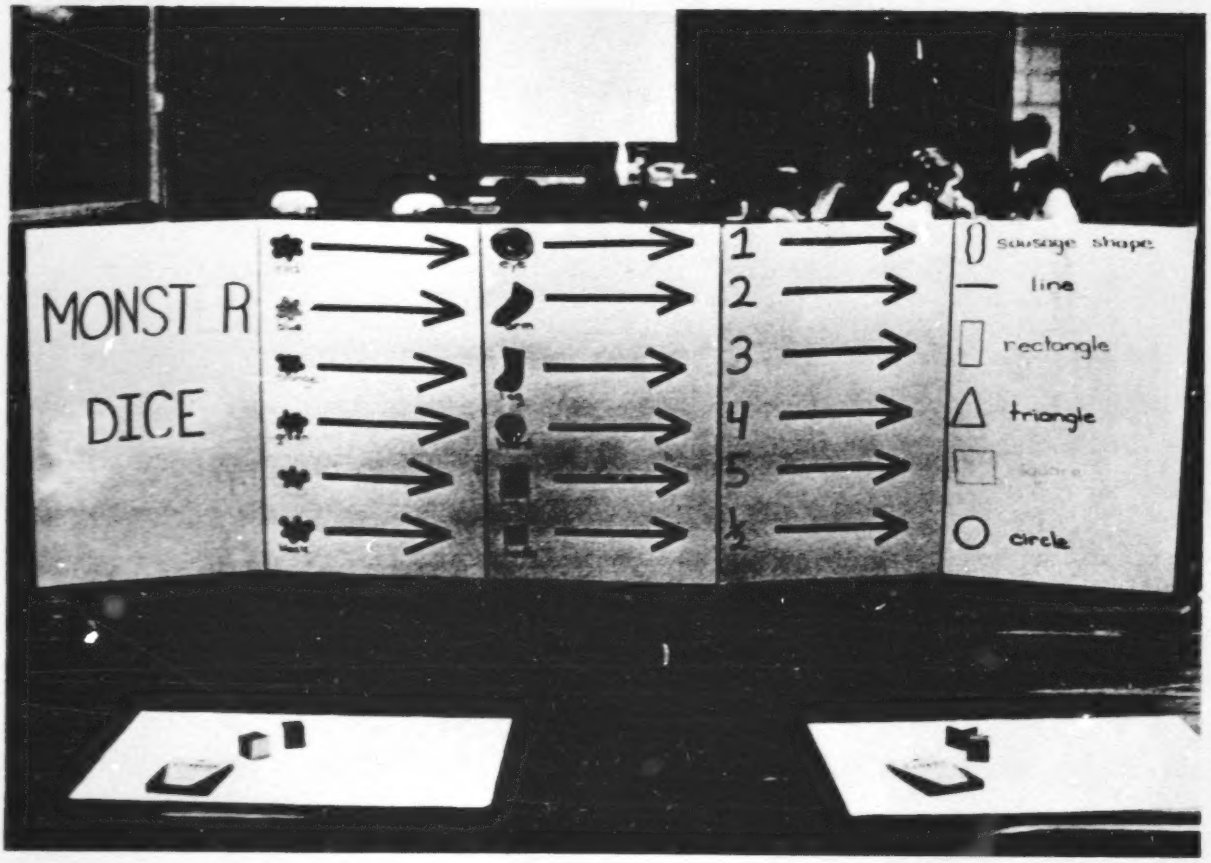
> The first thing we should teach children about trees in science class is that a tree is a living miracle, and the second thing is that people need trees if people are to survive. If a child can name every single cell and function and part of a tree from memory, but he doesn't <u>respect</u> that tree--we are in trouble, my friends--and we have failed totally as teachers.

I believe with Plato that education should give the child "a concrete awareness of the harmony and rhythm of all living things" so that in his own life he shall "partake of the same organic grace and beauty." To develop this awareness in children is to help them become better persons and to give them something that will enrich their living all the days of their life.

MONSTER DICE AND MATHEMATICS: A WAY TO APPLY PIAGET

Susan Dalziel

Project Change
State University of New York at Cortland



The Monster Dice are a thinking material. I invented them to match one piece of information about the development of young children's thinking: children move from a stage where they focus on only one variable at a time (Piaget's preoperational period) to a stage where they can coordinate two and eventually several different variables (Piaget's concrete operational period). This developmental change became salient to me during a study of early childhood mathematics that posed the question: "What thinking skills are needed to grasp mathematical notions?"

The Development of Decentering and Coordination

This discussion is guided by Piaget's assertion (1965) that "[illegible]servation" is a necessary condition for <u>any</u> mathematical understand[illegible]. I want to explore what's underneath: What underlies conservation? [illegible]es the child who can say, for example, that a quantity of water poured into another container is still the same quantity, use certain thinking processes that lead inevitably to that conclusion?

Two interdependent thinking skills seem to be at the core of conservation. The first is "decentering," which involves the ability to shift from one aspect of a situation to another. The ability to decenter, in turn, prepares the child for another key thinking skill, the "coordination of variables." Put another way, first the variables of a task are noted, then they are coordinated.

Decentering sounds like a simple task: shift your attention from one thing to another so that more than one thing can be held in mind at once. Remember the old riddle, though, "Which weighs more, a ton of bricks or a ton of feathers?" Many adults get caught in that riddle by centering on feathers vs. bricks. A shift to the other criterion--ton vs. ton--leads to quite a different conclusion.

It is much the same situation when children are asked to decide if two containers of water have the same amount. At the beginning of the task, two tall, cylindrical containers are filled with equal amounts of water. Then, the water in one container is poured into a wide, shallow dish. How do children go about deciding whether or not the amount of water in each container is still the same?

The preoperational child will center on perceptual cues--high vs. low level of water. One <u>looks</u> like more. Centered on the perceptual information, the pre-operational child is unaware that other criteria for judgment might exist. He cannot decenter.

The concrete operational child can decenter. He attends to perceptual cues, but he does not get caught there. First of all he is <u>aware</u> that other criteria for making a judgment may exist. Secondly, he can <u>shift</u> his attention to the other criteria. And thirdly, he can <u>ignore</u> irrelevant criteria. In this case, he is aware that the amounts of water started out the same; and/or he is aware that nothing was added or taken away from either amount. He can shift his attention to either the beginning of the task, or to what happened in the process of transforming the appearance of one amount. And he can decide that the perceptual information, the difference in appearance, is irrelevant, because logic tells him that the amounts must still be the same.

There is a transitional stage between preoperational and concrete operational reasoning where <u>successive</u> centering occurs. First one criterion is considered, then another. What is missing is the ability to ignore irrelevant criteria and to hold several centerings in mind at once. Sometimes perception dominates; sometimes logic dominates.

The child can change his mind without experiencing a sense of contradiction. When perceptual evidence is powerful--very tall container vs. very shallow container--a child in this transitional stage is likely to be swayed toward an illogical judgment of inequality.

Coordinating variables is an extension of decentering. Decentering achieves a certain mobility of thought. Coordinating variables adds the dimension of complexity of thought. Variables have to be considered simultaneously and put into some kind of relationship.

What variables enter into the conservation of water task? Height and width are the prominent characteristics. The height of containers can vary; the width of containers can vary. Conservation of the liquid from a tall, thin container to a shallow, wide container means coordinating the differences in height with the differences in width. Both height and width have to be considered simultaneously, and put into a relationship.

During the preoperational period, a child would focus on the most perceptually prominent variable--the height of the water in the tall, thin container. He might say, "This has more because it's higher." He cannot consider more than one variable. During the concrete operational period, a child would (1) recognize that both height and width are variable and (2) focus on the relationship between height and width. He might say, "Although this one is much higher, it is also skinnier; the other one is very low but much wider."

Here, too, there is a transitional stage between preoperational and concrete operational reasoning. This transition period is characterized by contradictions. A child in this stage might say, "You have more because the water goes higher." Or he might say, "Mine has more because the dish is wider." In fact, the child may make both judgments on the same occasion. He can recognize that height and width are variable but he cannot yet put them into a relationship. He cannot coordinate the variables. Piaget (1965) has described this transitional process and its importance as follows:

> If the child makes his judgments on the basis of one criterion or another, both of which are variable, then he will vary his judgments. It is because he is puzzled at finding that he arrives at different evaluations depending on which of the two criteria he stresses, that he eventually comes to coordinate them.

It is the latter half of Piaget's statement that piqued my educational interest. The sense of puzzlement during the transitional stage is a catalyst for coordination. So the optimum time for assisting the development of young children's thinking is during the transitional stage. As an educator, I became excited about creating a sense of puzzlement in children through a material designed to develop decentering and coordination of variables.

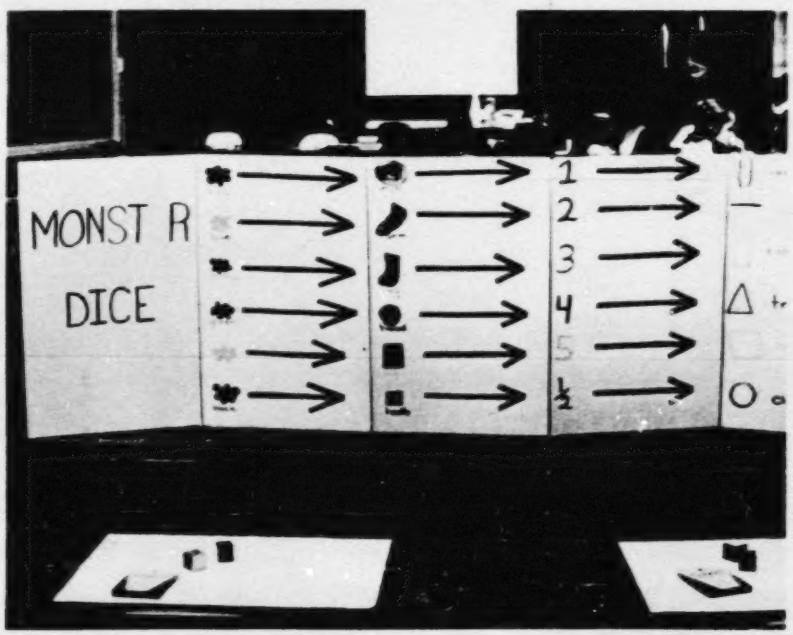
The Monster Dice

The original purpose of the Monster Dice was to highlight the thinking process of coordinating variables. But, as my earlier discussion indicated, the process of decentering is a necessary prerequisite thinking skill. Are they different stages in the development of the same process? Or are they separate but related processes? Are the stages of decentering interchangeable with the stages of coordinating variables? Or is coordinating variables the final stage of decentering? These are questions I have not yet resolved.

Monster Dice give children a chance to practice both thinking processes. Both are important; both deserve attention. While it is true that the ability to identify and organize several factors in solving a problem will eventually emerge in the natural course of intellectual development, adults can help by structuring and elaborating the reasoning process (Kamii, 1973). The Monster Dice are an attempt to structure and elaborate decentering and coordination in young children's thinking.

What are the monster dice? Very simply, they are cubes of wood painted a different color on each side: red, blue, orange, green, yellow, black. I might interject here that the cubes are wooden and painted because I believe in aesthetically pleasing materials. Time and effort went into making the monster dice chart attractive too. It is made up of 4 uniformly sized panels of very heavy poster board. They are attached to one another by strips of cloth mystic tape. Taping the panels together this way allows the chart to fold up easily. When displayed the chart takes up the entire length of a large table.

Monster Dice Chart: First Three Panels



The first panel (going from left to right) lists the colors on the dice (red, blue, orange, green, yellow, black). The second panel lists parts of the body that correspond to each color (eye, arm, leg, head, body, teeth). The third panel lists numbers that correspond to each color (1, 2, 3, 4, 5, ½). The fourth and last panel will be discussed later. The only other equipment needed to play the monster dice game is paper to draw on and crayons to draw with.

We start with just two dice and 3 panels. (The fourth panel on the chart is folded back out of sight.) The purpose of the game is to draw a monster by using the colors showing at each roll of the dice. Here's how it works.

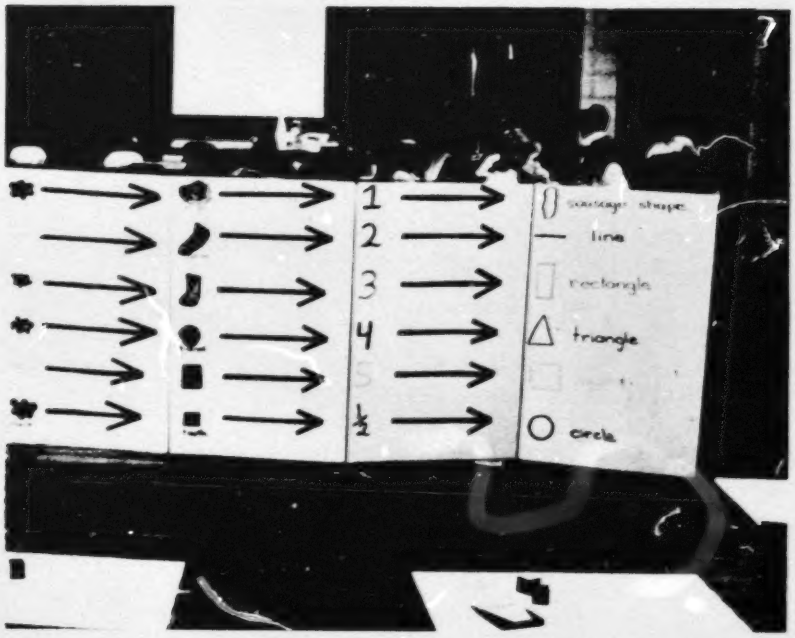
A player takes two dice. The dice are rolled, and the player must decide how to use the colors that are showing. For example, if a player rolls red on one die and orange on the other, he may, referring to the chart, choose to let orange have its number meaning (3) and red have its body-part meaning (eye); so choosing, he would draw the first parts of his monster: 3 eyes. Or he could choose to let red have its number meaning (1) and orange have its body-part meaning (leg), and draw 1 leg.

In other words, the player must choose one meaning for each color rolled. If by chance the same color comes up on both dice, the player must draw both things that color stands for. If two green are rolled, for example, his only choice is to draw 4 heads.

Usually each player uses his own pair of dice, and has 10 rolls to draw his monster. There is no competition involved. Many variations are possible, however. One pair of dice could be used by a small group of children: each one could draw his own monster, or they could draw a group monster. The number of rolls used to complete a monster could be varied to be more or less than 10.

The 4th panel on the chart was added to increase the complexity of the task. It adds the category of shape to the possible meanings of each color. The shapes are: sausage, line, rectangle, triangle, square, and circle. Each player needs three dice in this instance, because there are now three characteristics to be coordinated. Consider these interpretations of three dice: a player who rolls a red, a black, and a green could draw half of a triangular eye, or four round eyes, or ½ of a sausage-shaped head, or one triangular tooth, or one round head, etc. You can see how much more complex it becomes with three dice!

Monster Dice Chart: Four Panels



I've noticed, however, that adding the category of shape makes the drawings less creative. It tends tc limit the usually rich diversity in size and form of the monsters. I'd like to substitute something else for that last category--perhaps "patterns" like checked, polka-dots, plaids, and the like. Or perhaps just "size" words--tiny, big, enormous, etc.

What do the Monster Dice do? They give children an enjoyable task in which decentering and coordinating variables play an important role.

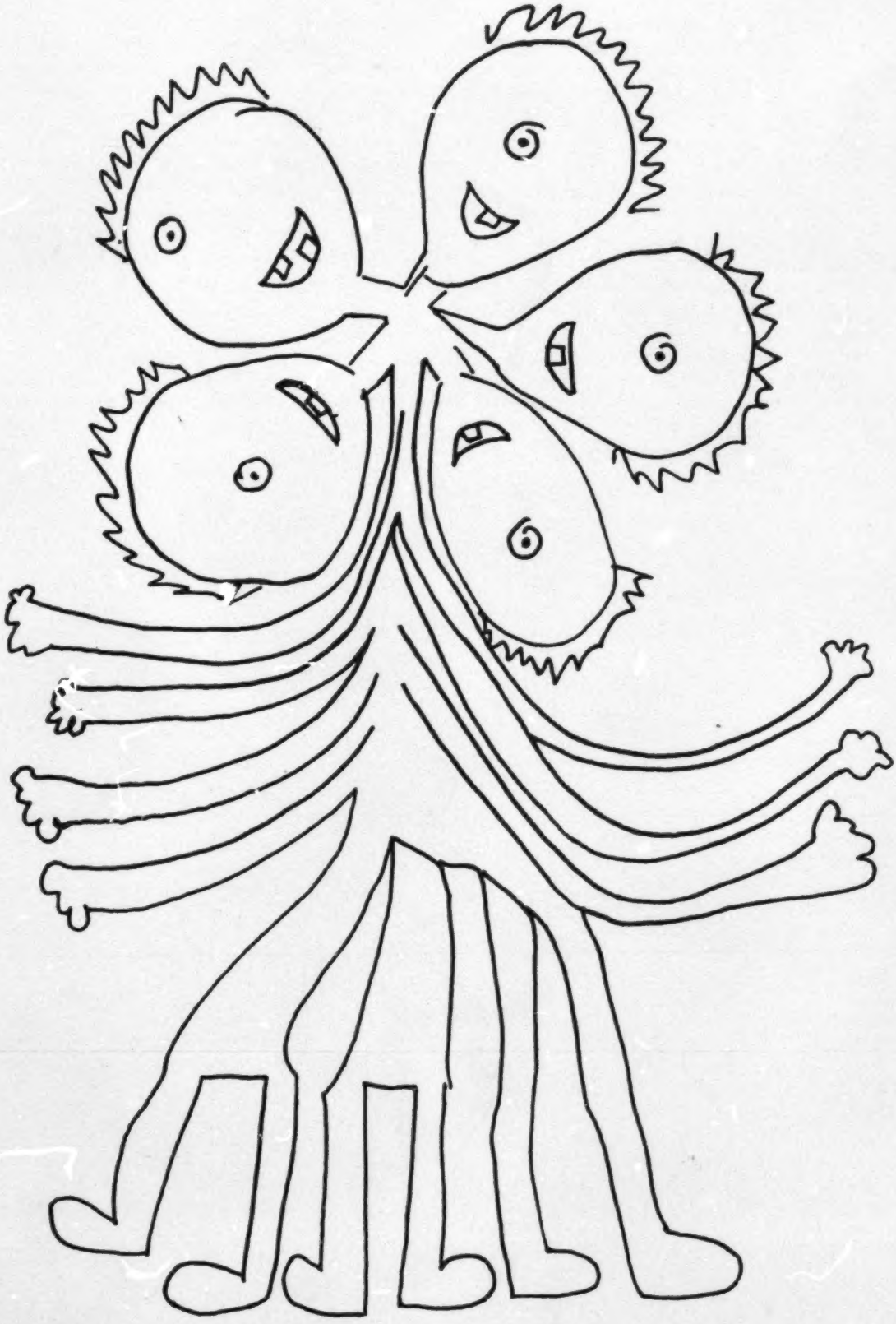
The child who plays Monster Dice comes to learn that something may have two or more aspects to pay attention to. In this case, the color of a die has 2 or 3 different meanings to choose from. Shifting from one meaning to another is a form of decentering.

In the beginning a player may focus on only one meaning at a time. But with play--with practice at shifting from one meaning to another--he becomes better able to hold more than one meaning in mind at once. And this process, paying attention to two or more factors simultaneously, makes it possible for the child to coordinate variables, to r[illegible]ate them in a way that produces a new meaning.

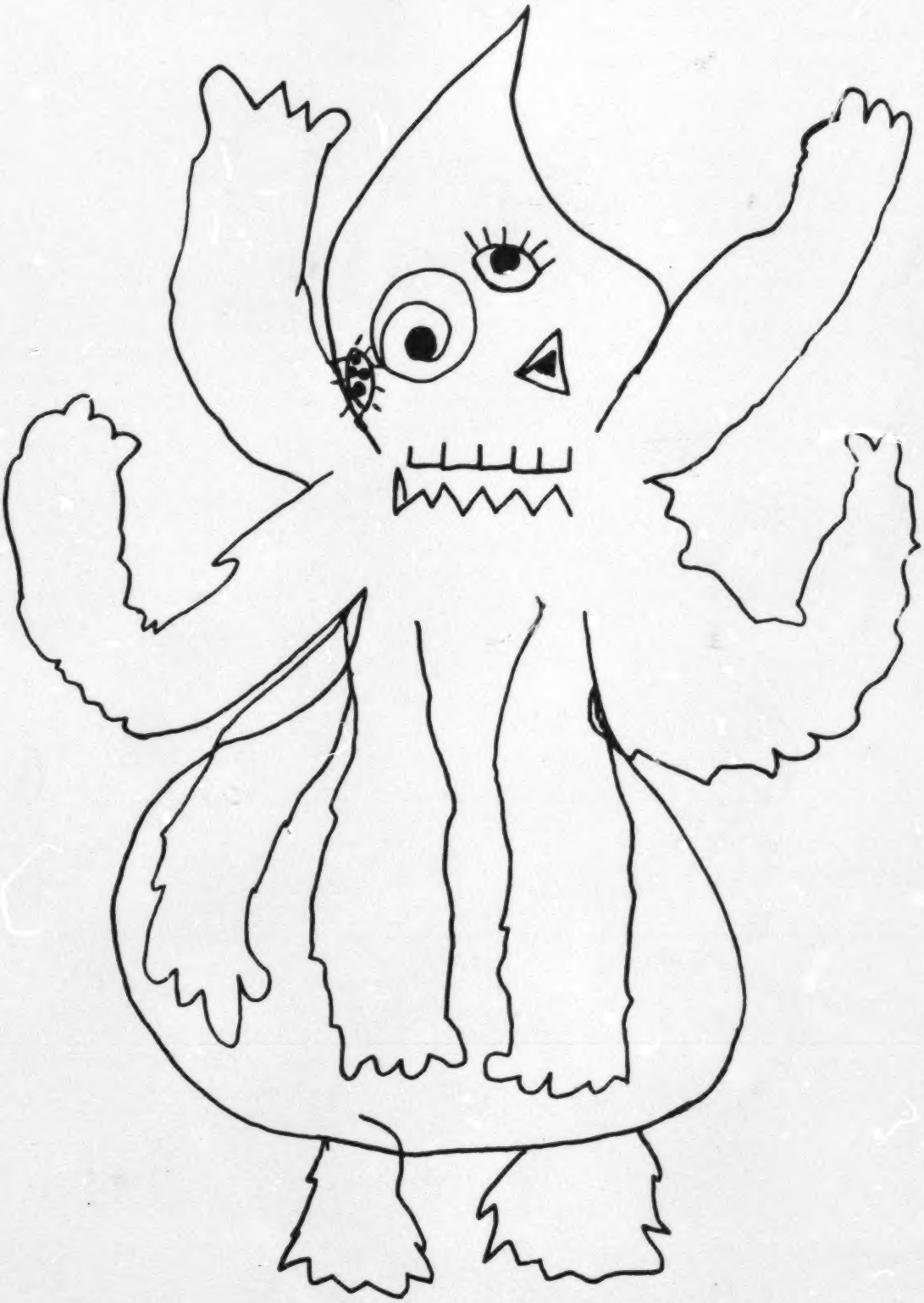
In my view, learning to coordinate variables is a major task in the development of young children's thinking. Mathematics is full of instances where coordination is required. Each type of conservation has its own set of variables. Conservation of length, for example, requires coordinating beginning and end points. Time, another form of measurement, requires coordination of speed and distance. Multiple classification requires recognizing that something can belong to more than one class at once (e.g., "two" can be two but also a subclass of "five"). Seriation requires the coordination of the comparisons of "greater than" and "less than": 2 is greater than 1 but less than 3. The concept of "numberness" requires a simultaneous and interdependent evolution of the notions of cardination and ordination. And so on.

By preparing the young thinker for integrating two or more factors into a new entity, Monster Dice helps develop the kind of thinking processes that children need to grasp basic mathematical operations.

MONSTER, by Nancy, Grade 3



MONSTER, artist unknown (teacher)



TEACHING SCIENCE IN THE INFORMAL CLASSROOM

Peg Hasch

Project Change
State University of New York at Cortland

I believe that children are natural scientists. They are naturally curious about and interested in the world around them. Their actions on that world indicate their desire to know it and make it meaningful. Even very young children reveal a whole repertoire of behaviors for making sense out of an unknown object: pounding, pulling, chewing, sucking, throwing, weighing, watching, feeling, shaking, squeezing. When he has exhausted his own means of exploration, the child may turn to his mother or teacher with the query, "What's this? What's it for?" in an effort to extend his present knowledge. This is science for the young child: a personal investigation, an organized exploration of that which is yet to be known. Science "teaching," then, involves creating the conditions that stimulate this systematic search for knowledge.

I. Identifying Good Science: A Look at Some Classrooms and Teachers

A science advisor in England[1] tells a story of his attempts to get a teacher there to allow science to happen in his room.

> This chap told me, "You know, I'd like to do some science, but my head, he won't allow it." So I took up the matter with the headmaster, who stated that he couldn't get this teacher to do science. I then returned to the teacher and said I had talked the head into letting him try a little science. "Well," said the teacher, "in order to do science I believe you need quite a bit of equipment, and I'm a bit short of that." So I volunteered to meet this need and returned with all requested equipment, whereupon the teacher said, "I don't believe I can do a proper job of teaching science with so many children." I offered to work with 25 of the children, leaving the teacher with a small group of five. He then proceeded to do a demonstration lesson, teaching facts and drawing conclusions for the children as he would have done

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[1]My thanks to Mr. William Betts, Kesteven College of Education, Stoke Rochford, Grantham, England, for this and other anecdotes in the chapter.

had he worked with the whole class. His venture into science was short-lived.

My own experience in this country confirms the moral of this tale: people don't do science because they don't want to do it, and they don't want to do it at least partly because they misunderstand what science is all about.

Many elementary teachers say there is no time to "teach" science because of stringent math and reading programs. How do some teachers manage to find the time?

> During a visit to a class of 7 and 8-year-olds in Ithaca, New York,[2] I was taken on a tour of the sugar maples the class had recently tapped. Four boys gave a complete account of the process, from the identification of the trees to the emptying of the pails. When we returned, I found the teacher and several other children stoking the fire, and they explained to me how the sugaring-off process worked. Nearby, two girls were sitting on the pavement sketching and coloring the scene around the fire. Inside, a parent volunteer and several more children were hanging up graphs and charts they had made comparing the amount of sap collected with the amount of syrup obtained. A few other children were in the room writing stories--both fact and fiction-related to their maple-sugaring project.

The point here is obvious: this teacher made time, set the conditions, and encouraged science to happen. The children, both in groups and individually, went about their own investigation of a new area of knowledge that thereby became personally meaningful to them. I once visited another classroom, a 3rd grade, where the teacher also made time for science--three times a week for 45 minutes each day.

> The children were being "taught" about the solar system. The teacher had figured out an accurate scale of planet size and distances between the planets. The children, in pairs, were given different size balls representing the planets and sun, told the scale distance, and asked to place the "planets" accordingly. When I questioned one child about his scale model, he appeared puzzled. I then realized his acquaintance with the word "scale" was limited to his father's produce scales!

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[2] I would like to express my thanks to Ann Caren, one of the most outstanding early childhood teachers I have met, for the many experiences and ideas she has shared with me and which found their way into this chapter.

This kind of "science" precludes real investigation, expects right and wrong answers, and is dependent upon prior information the child may or may not have acquired.

I don't want to give the impression that I believe facts are unimportant. I like to distinguish, however, between asking a student to try to memorize a lot of facts and helping him acquire a healthy respect for fact, a proper valuing of accurate statement. This kind of respect for accuracy may lead to questioning some statements that are passed off as "facts." In most science books, for instance, the assertion is made that the sun rises in the east, which actually happens only twice a year. Likewise, children are taught the "fact" that water boils at 212° F. which is true only at sea level.

In addition to learning to qualify generalizations, children also need to learn to value accuracy in recording observations. This lesson is best taught by allowing children to "make up" facts based on their own observations and to test one another for their accuracy. This encourages respect for the nature of an object or event without bogging down the child's curiosity in a mire of meaningless details that were discovered by somebody else.

Teachers reluctant to do science sometimes express a lack of confidence in dealing with "scientific stuff": rocks, magnets, animals, pulleys, whatever. Here are three thoughts about this concern for teachers to consider:

1. Would you ever think of saying to your principal "I'm just no good at teaching reading. I nearly failed it in school myself and I've never really understood blends and digraphs and phonemes?"

2. You don't have to "know it all" when transmission of knowledge is no longer the goal of science. As Verne Rockcastle (1972) has said, "Nature, not the teacher, is the final authority." Children will discover answers through their own investigation and their own observation of the world. If allowed to "mess about," to borrow David Hawkins' (1970) term, the child will "cross the line between ignorance and insight many times before (he) truly understands."

3. Finally, the content of science is not terribly important with young children. They will choose areas they are interested in if encouraged to do so. Early experiences like collecting bags of air from different places or planting cinnamon drops as well as seeds will build a base on which later, more abstract thought about the world of physics or chemistry or biology will rest. What is important during the early years is that the teacher "set the stage" for organized exploration to take place.

II. Developing Good Science: Creating the Conditions

As in all aspects of good education, there are at least three major questions that are helpful to ask when setting out to implement something new or different: (1) What is the role of the teacher? (2) How should the classroom (time, space, materials) be organized? (3) How can the innovation be evaluated?

What is the Teacher's Role?

The most important question in undertaking science in the informal classroom is simply, what does the teacher do? The teacher's first responsibility in attempting to develop a child-centered program is to know the needs and interests of the children.

> A colleague of mine (Thomas, 1974) used an informal inventory with several classes of 4th graders in an attempt to ascertain what 9, 10, and 11-year-olds are most interested in, both in and out of school. She identified five major categories into which virtually all the responses fell:
>
> (1) animals;
> (2) subjects that are presently popular in society, such as ESP or astrology;
> (3) topics which involve mastering a skill like sewing, weaving, acrobatics, or pantomime;
> (4) aspects of what life was like before they were born or very long ago (hence a fascination with old fire engines, or baseball history, or the pioneer days); and
> (5) the unknown (things about which children have no previous background knowledge and which hold an element of danger and excitement), for example, dinosaurs and cave men, floods and volcanoes, or how all kinds of things are made.
>
> With regard to the last category, the teacher commented "Children are often asked to become interested in things and topics that they already have a great knowledge of and then to become wildly excited about them. Children are really interested in the unknown, the new, the unfamiliar."

Working with teachers of different grade levels, preschool through upper elementary, has given me the opportunity to discuss what they have observed about the needs and interests of the children they teach.

A 2nd-grade classroom I observed provides a good example of what it means to plan a program around the interests of children.

> The windowsill of the classroom boasted a colorful array of plant pots and terrariums, all identified and labeled in the children's own handwriting. The two hamsters, rabbit, guinea pig, turtle, and fish (and there was still room for the children!) also bespoke the teacher's understanding of children's natural curiosity about living things. The various types of clay in the art area and the generous supply of food packages and cooking utensils were a recognition of the 7-8 year-olds' desire to change the form and substance of things in their environment. Two children spent the whole morning rearranging a shell collection one of them had brought in. The teacher reaffirmed my belief that this was the "age of collections" as we watched a group animatedly trade baseball cards.

Knowing that most 2nd graders like living things, are transformers at this stage of development, and collectors at heart, enabled this teacher to provide materials and time for these interests to expand and develop.

A second aspect of the teacher's role is to observe, listen, and question. These are skills that improve with practice, and one of the best ways to become better is simply to start. Particularly good questions are those which encourage children to value their own observations (What did <u>you</u> observe?), which develop an inquisitive attitude (What do you think might happen if...?), which help clarify or extend an idea or thought (Could you give me an example?), and which lead to further investigation on the child's part (What else could you do?).

The teacher's role ultimately involves developing attitudes. This happens in all classrooms, traditional or informal, but in a good classroom the teacher is <u>conscious</u> of the attitudes she is trying to develop among the children. Eleanor Duckworth (1973), a pioneer in good science education, has written an article in which she says that one of the goals of education should be to help children "have wonderful ideas." A story I heard recently made clear to me just what she meant.

> David confronted his teacher one day and asked if seeds had starch in them. The teacher said she didn't know and asked him how he might find out. After a few days, David took some seeds home and boiled them in water. After removing the seeds, he strained the water and let the residue dry. When he ironed the residue, it turned as stiff as a starched collar, and he proudly concluded that seeds do indeed contain starch!

A teacher reaction to David's initial inquiry might have been, "Oh, what a foolish idea" or a direct "yes" or "no" answer. In that case,

any further investigation would have been squelched. Instead, a supportive response, "How can we find out?", led to a truly wonderful idea and an ingenious piece of problem-solving.

In helping children to have "wonderful ideas," Duckworth suggests that teachers do three things:

(1) help the child to formulate his idea by discussing it with him, gently moving the child to refine too-general statements;
(2) provide time, space, and appropriate materials so that the child can investigate his idea as much on his own as possible;
(3) encourage reflection on the process and the results so that the child comes to value his own work and to see other possibilities or extensions of his investigation.

How Should the Classroom be Organized?

Setting the conditions which encourage the having of wonderful ideas means taking a look at the basic organization of the physical space in the classroom, the daily time schedule, and the materials available for the children to use.

Space

Physical space is relatively easy to deal with when science no longer is relegated to the "science corner."

> In my own teaching experience, a very old building forced us to be creative. Sinks were unheard of in all but one kindergarten classroom; the windows were much too high for the children to see out; two outlets and an illegal extension cord that we hid during fire inspections provided electric current; tables were a luxury item, one per teacher being the limit; very high ceilings and only one bulletin board to absorb sounds meant resounding echoes even when we whispered. The tale goes on and on, but the picture should be clear; the children and I did our learning wherever and whenever we could find appropriate space.
>
> Much of our time was spent outdoors. In the beginning of the year each child chose a plot of land for his own study. At first, most of the children worked in pairs at their plot, but after a while each child moved on to his own area to explore it. Depending on the site, different interests developed. Several children chose a swampy area which provided much material for study all year round. Others chose dead,

but definitely not deserted, trees and stumps. Still others picked land in or near a wooded spot. More time was spent observing, recording, and graphing, or in some way showing the similarities and differences among the plots, than on any other single topic all year long!

The only time we ran into a problem with space was in trying to display all our findings. A little cajoling of both principal and custodian and that problem was solved by temporarily using the hallways for our exhibits.

If much of the good weather is spent outside--where the real world provides both space and materials--then classroom spatial problems are minimized.

What about the winter months and rainy days? Don't ignore the out-of-doors entirely on those days. Properly clothed, children can find much to learn on an eroding hillside or under a blanket of snow. Generally though, the winter season and rainy days are spent indoors, and I found a few useful hints that prevented many a headache.

If you can tolerate mess in a confined space but not all over the room, then define a "wet area"[3] for the children. This is where they may pour liquids, or make sand maps, or combine paints, or do any other activity that requires water, broom, mop, paper towels, etc. in order to clean up. And have those tools right there, handy.

Teachers who are fortunate enough to have a sink in the room, already have a "wet area" established. My water supply had to be fetched from down the hall, so my "wet area" was near the door. There's no sense hauling a dripping bucket of water across a rug, or reading corner, or game area when a little forethought concerning spatial arrangement would prevent that problem.

When special materials are to be provided for the children, whether for clean-up or experiments, it is important that they be readily available so that the children can get to them without the teacher's assistance. Equipment that is neatly stored and well-labeled has a far better chance of finding its way back again than materials which are stuffed on a shelf helter-skelter. Storage and retrieval systems need careful attention in the design of space.

Time

How important is time? I believe David Hawkins (1970) says it

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[3]Nancy Rambusch, former President of the American Montessori Society, shared this idea during a visit to Project Change in September, 1972.

best when he talks about three stages in learning about something. They are, in sequence: (1) the messing about phase, (2) the multiply programmed phase, and (3) the theory/discussion phase.

The first and critical "messing about" stage often takes the longest and yet, sad to say, is foreshortened or eliminated entirely in much classroom learning. It is during this initial contact between the child and materials, that an essential foundation of familiarity is build. In a playful atmosphere, the child is able to test and observe his own actions and the reactions he causes, a process which helps to develop an experimental, "what-happens-when" attitude, which is the basis of all good problem solving.

> A student teacher I observed went to great lengths to provide for this "messing about" time as he introduced a unit on sinking and floating to 1st-graders. The children had not had a water table in the room yet, so George planned to let them just play for a day. I wandered into the room on the second day as he was vainly trying to focus four little minds on things that could sink and float. When George eventually realized he was getting nowhere with his "lesson," he began simply to chat with the children about what they were doing. He later told me that a few days after my visit, two children, had on their own, grouped together all the things that "go down" and all the things that "stay on the top!" Another wonderful idea.

There does come a time in which teacher guidance and discipline are more directed in order to permit variance without chaos. Hawkins calls this stage the "multiply programmed stage," which simply means that the teacher must be ready to meet individual needs by providing materials which allow the children to pursue their own course of learning rather than something the teacher had in mind. In the case of our plot of land study, because plots varied so greatly in plant, animal, and soil content and because certain children were more interested in some aspects than others, the extensions of their learning also differed. The children who had chosen the swampy area set up a miniature "swamp" in the classroom. They studied the life cycle of pond animals, and the whole microscopic world fascinated them. On the other hand, some of the children who chose the wooded plots became intrigued with the variety of birds' nests they discovered and extended this interest into a study of migrating habits of birds and incubation of duck eggs. The teacher's role is to be prepared for this diversity and encourage it.

Finally, a third stage, what Hawkins calls the theory phase, is essential for critical thought. Experiences become meaningful when we reflect on them. Providing opportunities in which children have to justify their ideas is one way of fostering critical thought. As children "bounce" their ideas off others, they come to critically

evaluate what they have done and revise or maintain their position after looking at all the data. I remember being told that instead of giving tests, a far better way to assess what has been learned is to have a group discussion with each person having to explain or defend his experiment, or problem, or area of learning to the rest of the group. Class meetings would be one way of providing opportunities for this kind of critical thinking.

Time to explore, investigate, and evaluate is of crucial importance <u>especially</u> in the informal classroom. Forty-five minute units say to the children, "I know what you're doing is important to you, but now let's get on with more important things." Upon visiting an American elementary classroom and reading over some of the children's writing, a British headmaster commented, "This says to me '20 minutes'; this one looks like 35." All that we know about the child's mind tells us that children think in wholes and see their world that way, not as a series of subjects or blocks of time. A commitment to allowing children time to learn is admittedly a large commitment to make, given the pressures of math and reading programs. But unless some provision is made to allow opportunities for unhurried messing about, intensive investigation, and critical evaluation, then we can't really expect much meaningful learning to take place.

<u>Materials</u>

Classroom organization for an informal science program also requires some decisions about materials. The teacher has the job of seeing that the classroom is well equipped to provide many practical experiences.

Although science should not be "contained" in one corner of the room, having a science display in a particular place invites the children to handle it and inspires questions and ideas that may be further investigated later on.[4] For example, a simple pendulum in a frame that is set upon a table just calls out to be swung. After a while, interest may spread to comparing two pendula having different weights or different-length strings. Or perhaps some child may use it to try to hit a target, say, a plastic squeeze bottle.

The display will not suffice, however, all by itself. It is important that at some point the teacher move among the children, listen to their talk, and discuss with them the materials they are examining. When children try to communicate their observations and ideas to someone else who values them, their thoughts begin to crystallise. New meanings are gained from the reactions of the listener. Questions arise that lead to further inquiry.

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[4] I would like to recommend an excellent publication entitled <u>Science in the Open Classroom</u>, part of a series sponsored by Lillian Weber's Workshop Center for Open Education in New York.

Task cards with simple ideas or directions on them may be left near the display, not to take the place of traditional worksheets, but to serve as idea-starters, should the teacher be preoccupied or a child unsure of just how to begin his investigation. Once children become adept at using displays (which may take a long time), task cards need not be used. When that level of competence and imagination is achieved, students can set up displays of their own to challenge classmates and possibly the teacher!

It is also important to provide many and varied raw materials. The more materials on hand that the children can find at home, the greater the possibility of reinforcement in after-school activity. Having such a stock available also encourages the children to make their own apparatus. Much that is learned in an experience is discovered in the process of making the equipment.

Several classrooms I visited had a weather corner of sorts, complete with commercial thermometer, anemometer, weather vane, or barometer. In one such room, the children took turns, alphabetically, reading the instruments and recording the data each day. This does serve a purpose--it provides opportunity for children to read weather instruments. But I would venture a guess that much more would have been discovered if a few of those children had made the instruments and those interested in observing the changes in the weather kept the records. Not all children should have to do everything; in dealing with adults we respect that right of individuality, yet we violate it frequently with youth.

Raw materials also lend themselves to open-ended learning situations. Egg cartons can become wind-gauge cups or paint pallets; straws make wonderful structures as well as "air pipes" when cut at different lengths. It is good, however, to have some well-constructed commercial equipment in the classroom such as a good microscope, a finely calibrated scale, and an inexpensive but accurate compass. These materials, if properly cared for, provide many refined experiences that home-made apparatus just can't match. In many cases a balance made by a teacher, parent, or child is just what is needed to do a job such as comparing weights, but when more detailed knowledge is eventually desired, then a good commercial scale becomes necessary.

An odd thing often occurs with children in the process of learning, something that is not usually true with adults. Once they master a skill, practicing it over and over again, or make a piece of equipment, they often do not use it to the end for which it was initially intended.

> One teacher told of a rug the children were braiding in her class for a pioneer project. Once they learned the skill of braiding the rug yarn (a good raw material), they wanted nothing but to be left alone to do this. When the last piece of yarn was used and they

had measured the braid (finding it to be about 200 yards, or 600 feet, or 7200 inches!) interest dropped completely and the rug was never put together! The teacher wisely accepted this, secure in her knowledge of the learning that had taken place.

There is no set list of indispensable materials to have on hand in a classroom. Many of the things will be there either because the teacher or one of the children was interested in them at some time. This is why it is important for a teacher to develop many of her own interests and to share them with the children. When children see the teacher involved in her own personal investigation, they too may become interested.

I have provided a list of materials in Appendix I which I have found helpful for children as they investigate their ideas both formally and informally. Some of the materials will need to be purchased, borrowed, or used on a shared basis with another teacher, but many of the items are "trash treasures" that are usually thrown away. A letter to parents is often all it takes to obtain many of the materials on this list.

Record-Keeping, Evaluation, and Planning

Given an abundance of materials, a program based on knowledge of children's needs and interests, and a classroom organization which invites choice and investigation, how does a teacher in a typical American school keep track of it all? How does she plan for this diversity? How can she be sure that "learning" is going on?

Record-keeping and evaluation are indispensible. Records (see Dalziel, 1972) show what has been accomplished; evaluation indicates how well it was done.

A teacher who encourages varied paths of learning, must not only assess what the childrens' needs and interests are, but also plan how to incorporate them into a program given certain restrictions such as basal readers. The curriculum tree is designed to do just that. By exploring the many possibilities of a topic even before it is presented to the children, the teacher can stimulate, not merely permit, diversity. In addition to serving as a planning tool for materials and for possible extensions of activities, the curriculum tree can also be used as a record of what actually happened when the planned experience was carried out. Parents and administrators have little difficulty knowing what is happening in a classroom where "trees" represent both plans and accomplishments. A curriculum tree for nature study might look like Figure 1.

How does the teacher assess the quality of the learning or development that is taking place? Traditional tests indicate a mastery of factual content, but most educators accept that as indicative of only one aspect of learning.

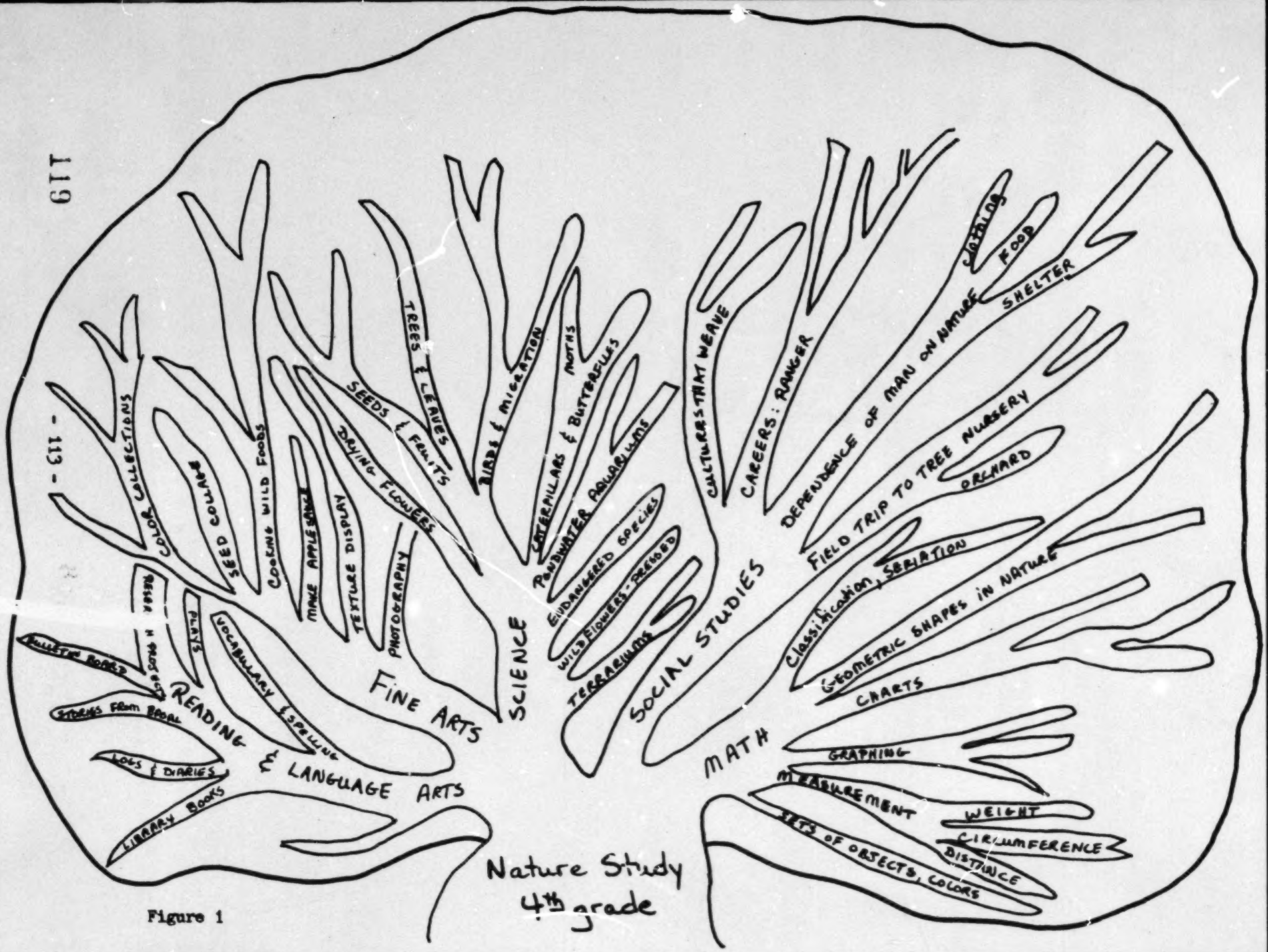
Nature Study
4th grade
READING & LANGUAGE ARTS
BULLETIN BOARDS
STORIES FROM BOOKS
LOGS & DIARIES
LIBRARY BOOKS
POETRY
VOCABULARY & SPELLING
FINE ARTS
COLOR COLLECTIONS
SEED COLLAGE
COOKING WILD FOODS
MAKE APPLESAUCE
TEXTURE DISPLAY
DRYING FLOWERS
PHOTOGRAPHY
SCIENCE
SEEDS & FRUITS
TREES & LEAVES
BIRDS & MIGRATION
MOTHS
CATERPILLARS & BUTTERFLIES
POND/WATER AQUARIUMS
ENDANGERED SPECIES
WILD FLOWERS - PRESSED
TERRARIUMS
SOCIAL STUDIES
CULTURES THAT WEAVE
CAREERS: RANGER
DEPENDENCE OF MAN ON NATURE
CATALOG
FOOD
SHELTER
FIELD TRIP TO TREE NURSERY
ORCHARD
CLASSIFICATION, SERIATION
GEOMETRIC SHAPES IN NATURE
MATH
CHARTS
GRAPHING
MEASUREMENT
WEIGHT
CIRCUMFERENCE
DISTANCE
SETS OF OBJECTS, COLORS

Figure 1

Because learning is personal, different for each child, the appropriateness of a particular type of evaluation depends on the student and the activity involved. Often a simple one-to-one conversation will indicate what a child is thinking. How involved the child becomes in a project or activity, the time he spends on it, the interest and enthusiasm with which he returns after a break, tell an important tale about how the child is learning. These behaviors should be documented, in writing, as soon as possible after they are observed.

Childrens' work is an excellent way to represent their science projects tangibly and objectively. A book written about the terrarium Kathy is making serves to record not only what she does but how she feels about her work. A drawing or painting of the fishless aquarium tht Jeff so carefully set up captures in detail his conception of the inhabitants of the pond-water world. Displaying childrens' work in an aesthetically pleasing manner also gives them a feeling of importance in addition to providing the kind of evaluation that speaks eloquently for itself.

Whatever technique is used in evaluation, whatever method is employed in setting up a good science program, it is fruitless without "serious, sustained, and systematic thought" on the part of the teacher. As Charles Silberman (1973) wrote in the Open Classroom Reader, "No technique should be used unless a teacher has thought about why it is being used, what he or she hopes to accomplish with it, and how it will affect the children in question."

Science, perhaps more than any other aspect of the curriculum, is for developing thinking. It naturally furnishes children with "what-happens-when" situations. As a child explores, for example, the objects set out for sinking and floating, he makes predictions, either verbally or mentally, and then observes what happens when he puts something in the water.

This prediction-testing results in what Constance Kamii (1972) calls "physical knowledge"--that which a person grasps by observing how physical objects react to his actions on them. It is a data-gathering process. This step, like Hawkins' "messing about," is essential for children to discover regularities or patterns of behavior, such as "corks always (?) float in water."

Science also provides opportunities for children to explain why something happens, to form theories to interpret the data they have gathered. At this point children are required to do a great deal of "advanced" thinking which involves what Kamii calls "logical-mathematical knowledge." This requires problem-solving behavior: an organization and application of the available information. As a child tests the variable of weight (e.g., a paper clip) against size (e.g., a large wooden block), for example, he may be forced to reorganize his thinking about what sinks and what floats. As he exchanges ideas and compares results with his friends or teacher, he can refine and broaden his thinking still further.

Teachers can turn confidently to the much-neglected area of curriculum called science for a way to achieve what John Blackie (1971) wisely defined as the goal of good education: "to use the natural curiosity of children to help them discover how full of interest the world is and to begin to learn how to look at it, what questions to ask about it, how and where to find the answers. That is what being educated is."

Appendix I

The following is a list of materials I have found helpful in a science program:

animals (I have found that guinea pigs are great--clean, like to be held, and reproduce just often enough; hamsters and gerbils are night animals and not much "fun" in a classroom.)

baby food jars
balances and scales
balloons
batteries, bulbs and sockets
bones
broom handles (1" dowels are too expensive)

candles
cardboard
charcoal
chemicals (oil, vinegar, sugar, salt, baking soda)
clocks and timers
coffee cans and measures
colored filters (theater gells or colored transparencies)
compass
corks

egg cartons

flashlight
food coloring
funnels (top ¼ of well-cleaned clorox bottle is good)

globe
gravel
gyroscope or top

hammer
hot plate

jars (gallon, quart, pint with lids--plastic and glass)

magnets
magnifying glass
maps (local, state, country)
matches
measuring cups and spoons
measuring tape (metric also!)
mirrors

nails, pins and tacks
nuts and bolts

objects to sort and balance

pails and sponges
pans--aluminum pie, dishpans, large trays
paper towels
pegboard and masonite
pendulums
plaster of paris
plastic bags and sheets
pliers
potting soil
prism
pulleys

rocks
rubber bands
ruler

sand
sand paper
sawdust
seeds
sieves
shoe boxes
soil
straws
string

thermometer
thread
toothpicks
toys (musical, mechanical)
tuning fork

washers (rubber, metal)
water (tap, ocean, pond)
wire (copper, plastic-coated)
wood scraps

yardstick

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PART III:

ISSUES IN EDUCATIONAL REFORM

SHALL TEACHERS HAVE A ROLE IN DETERMINING EDUCATIONAL POLICY?

Albert Shanker

New York State United Teachers

The questions of teachers' role in educational policy-making would not have been raised in 1960 or in 1950 or 1940 or 1930. It is being raised now because for the first time in the history of our public schools, collective bargaining is a way of operating, strengthened by teacher organizations and by the ability and willingness of teachers to enter into written contracts and, if necessary, to strike.

The fact that teachers are workers has been recognized within our democracy. They are workers in the sense that they have an employer, they have the right to sit down and negotiate their salaries and their working conditions. Teachers have this right, as do other employees, as a matter of democratic public policy.

In a democracy we also believe that policy questions, questions of how our public institutions should be run, are defined essentially by officials elected through democratic procedures. It is the mayor and the city council, the board of aldermen, the appointed trustees of a college or a university or an elected or appointed board of education that are empowered by the people to make decisions as to what the shape of public institutions is to be.

Here is where the conflict comes in. On the one hand we say that it's the board of education, the elected or appointed board that has the right to make decisions. In a democracy, through some process, they are selected to do that. At the very same time we say that in a democratic society the people who work in a school or college have the right to sit down and on the basis of equality work out an agreement with those elected officials as to what things should be like in that institution. The question therefore arises: who is it that determines the policies of a school system? Is it the government or is it the union or association of employees in negotiation with their employers? We have here a conflict between two elements in democratic theory. One of them says that elected officials run the institution, and the other says the employees have a right to sit down to make certain determinations on an equal-to-equal basis.

When teachers have sat down with their employers, what in fact have they bargained for? To what extent have negotiated items been merely matters of salary and working conditions and to what extent have they affected the direction which the schools should take? The distinction here is between educational policy on the one hand and

salaries and working conditions on the other. Salaries and working conditions include hours, teaching loads, vacations, things of that sort, whereas educational policy includes all those things which essentially dictate either particular methods of educating or the aims of education. Policy determines, for example, whether a child is going to leave school knowing two languages or knowing how to drive a car; whether the school will stress values and thought processes or mastery of certain subjects. These are policy areas.

When we look at what teachers have actually negotiated, we find areas that clearly are not matters of policy. They have to do with the salaries the teachers get, their welfare benefits, their health plans, their pension funds, and the number of days and hours they work. These constitute the hard core of what throughout our entire society are considered salaries and working conditions. But there are other issues which can be viewed as both a matter of working conditions and a matter of educational policy. These constitute an area of great conflict between teachers and school boards.

The issue of class size is one such area of conflict. Teachers want a limit on class size. The teacher argues that reducing class size is an improvement of working conditions. When you have 40 students in a class, the noise level is greater, the number of attendance x's to mark in the book is greater, the number of postcards to send home to absentees is greater, the number of papers to mark is greater. In terms of energy expended, in terms of nervousness, in terms of all sorts of physical measures, there is no question that a person has to work harder if he has 40 students than if he has 30. Therefore, the teacher demands smaller class size. This can be viewed as similar to what factory workers demand when they ask that the assembly line be slowed down or when they ask that their production quota for a given period of time be reduced.

But the board of education or the superintendent in turn says that the question of the optimum class size is not a matter for teachers to negotiate because the administration is trying to have a school system where each class is the optimum size. "We've got to be able to make these decisions," they say. "In order to be able to create a class of eight children who are very disturbed, we have to have a class of 42 children who can work well with each other. You must consider the economic realities of the situation. In putting an upper limit on class size, you are telling us that we cannot have special facilities for those students who need them. The only way we can create such facilities is to have flexibility in the way we organize our classes."

A real conflict exists. There's no question that class size is a working condition. When you must teach 40 or even 31 children, it is more difficult than 30. There is also no question that there are policy considerations involved in class size, and the board believes that it has been elected by the people to determine educational policy.

You have precisely the same kind of conflict when teachers demand

preparation periods or free periods. For a teacher to be locked in a room with a group of students from 8:40 in the morning to 3:00 in the afternoon except for the lunch period is almost humanly impossible. Teachers very much want to get out for periods of time. They need some kind of relaxation, some opportunity to unwind. Yet the typical factory model of a school, requiring the teacher to control large numbers of students, mandates a form of organization that does not allow teachers the breaks they need.

Superintendents and boards of education reply that teacher demands for free time would determine educational policy. "The only way we can have you leave a group of children for that period of time is to send in another teacher," they say. "Those children cannot be unsupervised. When we send in another teacher, we are introducing a type of departmentalization at the earlier grades in the elementary school. The research that we believe in shows that this creates confusion in the minds of children. It is easier for them to relate to one person."

The board has other objections as well. It feels that the public really doesn't want teachers to have free periods; they feel teachers don't work anyway. They have a short day and a short year. They really just stand in front of children and talk. Why should they get more free time? The only way to justify this preparation time would be to tell the public that children will have a special reading improvement teacher, a special music teacher, and a special math teacher. Each day when the regular teacher gets relieved, a specialist comes in to work with the children. Now that specialist goes to a different room each period to relieve another teacher. That specialist sees 30 different children each period and probably sees anywhere from 200 to 400 children a week. The problem is that this person cannot possibly learn the names of those children, and get to know them even if that teacher is more competent in a particular subject than the regular teacher. The fact that the specialist teacher can't have a relationship in that sort of a traveling program may very well offset the advantages of his or her expertise.

So, again, there is a real conflict. A person needs to get out of the classroom for 30 or 40 or 45 minutes just to unwind. Teachers cannot teach as well if they must teach non-stop. On the other hand, the board of education is certainly correct in saying that these are policy matters. The relief period is not just a relief period but dictates a form of organization to the school.

We have the same problem with respect to relieving teachers of non-teaching chores. Winning teachers this kind of relief is one of the substantive gains that has been achieved through collective bargaining. Teachers want to eat their lunch during the lunch period and not supervise students. During the first strike in New York City, one of the signs in the picket line said, "Teachers demand the right to eat." That meant they wanted the same right that any worker in a factory had. They wanted to be able to sit down by themselves or with

their colleagues and enjoy their lunch. They didn't want to have to stand in a lunchroom or in a schoolyard while the kids are throwing snowballs at each other and at the same time try to munch on a sandwich. The Board of Education said giving teachers lunch time without responsibilities determines educational practice, because when you take teachers out of lunchroom supervision you have to put somebody else in, namely, school aides. School aides may not have the professional training to be able to deal with children. The New York City Board of Education has stated that it's only since teachers were relieved of lunchroom duty that we've had riots in student cafeterias, because the aides do not have the same relationship to children that their teachers do.

Teachers have also asked to be relieved of the duty of policing the halls while students are changing classes. The school board retorted with the statement that you are inviting violence if the teachers are not there. When there are no teachers policing in the halls, anyone can come into the schools. Pupils can be molested and mugged. Teachers who decide not to engage in any of these non-teaching chores are actually removing themselves from a relationship with students while the students are walking through the halls or eating in the cafeteria. Their actions in making their job easier are actually creating an atmosphere of lawlessness and violence.

Another point of conflict is whether teachers shall be required to mark standardized tests. In our union contracts with New York City, teachers have been relieved of this responsibility. The Board is not happy with this situation, claiming teachers should mark these tests since by so doing they will be able to discover certain things about their own teaching by comparing the performance of their class with that of other classes.

Still another difficult question is the disruptive child. Teachers sometimes have one, two or three students in their class who jump and yell and throw things and beat up the students next to them. We know that this behavior is prompted by many different reasons. It might be a function of the teacher's personality, or the way the class is organized. Or a child might be so far behind in a given subject that he feels hopeless in being compelled to do the impossible. All sorts of reasons can cause children to be disturbed. But whatever the source of the disturbance, the fact remains that teachers need certain conditions to be able to do their job, which is to teach. One of those conditions is the removal of those students who consistently are unable to abide by the kinds of rules and regulations that are necessary when your classes are large and you can't have individualized instruction.

Whether a student remains in a school, however, often becomes a matter of racial confrontation. Especially in large cities, the removal of disturbed students tends to be seen as the removal of minority group children from the classroom by middle-class white teachers. It then becomes a question on the teacher's side of survival in the classroom, and on the minority group's side of discrimination and unfair

treatment of their children. The issue can become not just one of educational policy, but one of violent confrontation within the community.

Let us turn for a moment to another issue that is an area of even greater conflict between teachers and school boards: the meaning of professionalism. How is the word "professionalism" used in teaching and in the field of education? George Orwell's book 1984 describes a world divided into a number of totalitarian societies. In each of these societies, political control is maintained by the development of a special language and thought process. This language and thought process, inculcated at a very early age, takes each concept and identifies it with its very opposite. When you think of one thing, you immediately associate it with its opposite. War is peace; freedom is slavery. This way effective political thought is frustrated. Similarly, if you are a teacher in a school and you get up at a faculty conference and criticize the principal or the school board or someone else who is in authority, then you are said to be unprofessional. The word "professional" is used as a punishment by people within the authority structure against the teachers in the school system. It means "don't rock the boat," "don't criticize," "keep your mouth shut." Don't be naughty, don't do anything wrong. Obey.

A professional, as the term is ordinarily used, is an expert who by virtue of his expertise has a very high degree of decision-making power regarding his work. A professional is a person who is regarded as so competent that he doesn't need supervision. For instance, a surgeon doing surgery would never have the hospital board chairman or chief administrator instructing him about how to operate. The chief administrator knows how to conduct the other operations of the hospital such as deployment of rooms, equipment, and non-medical personnel, and the surgeon could not work without the professional skill of the chief administrator. But the chief administrator has no authority over the surgeon except in non-professional matters.

This condition, however, does not hold true in school systems. Principals, superintendents, and school boards do have authority over teachers--even those teachers who are most expert in their particular field. A classic example is the case of Mr. James Worley. Over a decade ago, James Worley was a teacher at the Fox Lane School in Mount Kisco, New York. He had been there for many years. His file was filled with all sorts of commendations. Then one year they got a new principal. Before school opened he had a conference during which he told his teachers that his door was always open. Then he ended his talk by saying that one of the great hallmarks of professionalism was the willingness of the professional to sacrifice for his clients and to show dedication. "Since I want to show this community and the world that we have the most professional and the most dedicated teachers in the whole country," he said, "I am telling all of you to go home over this weekend and to prepare a detailed lesson-by-lesson plan for the entire year. That will show dedication and sacrifice."

Over the weekend, all the teachers, because they were professionals, went in to see the principal with their plans. Mr. Worley also went into the principal's office and said, "Look, I'm not a hypocrite. I'm willing to work hard. I'll give you daily plans, and weekly plans. I'll do some plans in detail for the next two or three or four weeks. I'm willing to write an essay on where I intend to go in terms of my work during the course of the year--the problems that I think I'll encounter, the professional periodicals I'm going to read, and the people I'm going to talk to to try to overcome obstacles that arise. I'm willing to do anything to teach well, and to submit these materials to you. But I am not going to do something which everyone knows would be phony and would be wrong. If I really told you this Monday morning what I'm going to be doing nine months from now at a particular hour in the morning, it would show that I'm incompetent. Because all of the knowledge that we have within our occupation shows that this would be the wrong way to do things."

What happened? Mr. Worley was fired.

Why is a professional fired? A professional is an expert, and an expert is a person who has competence in a particular field. No one said that Mr. Worley was incompetent. He was fired for insubordination, not for incompetence. Now, insubordination is not a professional concept; it is a military concept. When you are in the army and you are a private and the sergeant says "Run that way and shoot," it is none of your business to question the sergeant's ability. It is strictly an authority relationship. If the sergeant doesn't know his stuff, somebody else has to take care of it. But you are not to question it, it is not a professional relationship; it is one of military authority.

What we have within school systems is an authority relationship which is essentially military. Any principal can order any teacher to do something professionally even if the principal lacks knowledge in that field, and even if the teacher in the classroom is the world's leading expert. Under the laws of the State of New York and the other 49 states, a teacher who refuses to carry out the order of the principal can be fired, even when the order is against the teacher's highest professional judgment. In other fields professional expertise has been so established that this conflict does not seem to exist. In a city-operated hospital, for example, it is unlikely that some political figure would order a doctor to practice medicine in a way which was contrary to the judgment of that doctor. In the field of education, this respect for the expertise of the professional does not exist.

One reason is that no one really considers teaching a profession at this time, no one really believes that we as teachers operate from a fairly solid body of knowledge in the same sense that other professionals do. The feeling is that we operate mainly on the basis of opinion, and our own teaching styles. The educational research of the last decade shows that we don't know what we're doing. Every method that has been tried doesn't seem to work any better than any other method.

The teachers in a particular district read all this research that said that we really don't know anything about what makes some children learn and other children not learn. They ran into the principal's office. They said "Hurrah! Research has shown that all of us are ignorant. Since all of us are ignorant, what gives you the right as the principal to come in to tell us what to do when you're just as ignorant as we are?" The teachers thought that was a great day. But the next day the parents walked into the teachers' room and said, "Why shouldn't we tell you what to do? Since we are all ignorant, we, as parents, might as well tell you what to do and have our own wishes satisfied." What was elation on one day became a rather frightening thing on the following day when the teachers realized that the lack of substantial knowledge about teaching methodology undermined the teacher-parent relationship as well. A profession cannot abandon its responsibility to have real expertise.

The authority relationship in American public schools is even more irrational when you consider how people get to be administrators within our school systems. Across the United States of America a disproportionate number of superintendents and principals are former football and baseball coaches whose teams did not make it for a few years. Everyone thought that it would be terrible if the athletics program suffered for another few years. So the unsuccessful coach was promoted to superintendent of schools or principal in order to make room for a successful coach. That unsuccessful coach is then able to walk into the early childhood class or the French class or the math class and observe teachers and tell them what their methods should be and whether they're good teachers or not.

Now that teachers are gaining power they are not willing to accept this irrational, purely authoritarian relationship. More and more teachers are saying that they insist on the right to sit at the negotiating table. Even if it compels you to make certain changes in the structure of the school, they are saying, we have a right to negotiate our working conditions. More and more there are very lengthy strikes. In New York City in 1968 the teachers' strike lasted from September 9 to November 19--37 school days.

The easiest issue to settle in most of these cases is how much money the teacher should get, but the other issues I've mentioned are what teachers and school boards really fight about. School boards and public officials say that teachers, through their organizations and the collective bargaining process, will usurp almost totally the government functions of setting educational policy. This claim is dead wrong and it can be proven wrong. There are, certainly, gray areas, such as class size and preparation periods and non-teaching chores, which do impinge on educational policy. But on most matters of educational policy teachers will have no impact through their organization as teachers.

What are the major areas of educational policy? They concern issues like which textbooks are used, what teaching methods are employed, how children are to be grouped, how they are to be evaluated,

what they are to be taught. Teachers do not determine these types of educational policy as a group simply because teachers are divided on these issues. They can be successful in accomplishing their objectives only in those areas where there is near unanimity of opinion. Only in the areas of salary and working conditions does this unanimity exist. Statements by school boards, legislators, politicians, and superintendents that teachers as a group are determining broad educational policy simply because they are now organized and have power are simply not true.

If, however, the general public continues to blame teachers for poor results in the education of their children, then teachers will demand control over educational processes. The people who on the one hand say that teachers should not be involved in making educational decisions, and say in the very next breath that teachers are responsible for the failures of schools, are running in opposite directions at the same time. You cannot hold anyone responsible for conditions over which they have no power and no control. The politicians and the school board are going to have to go one way or the other. They're either going to have to say "You're nothing but a bunch of factory workers. Do what you're told and we take the responsibility for anything that goes wrong." Or they're going to have to say "It's your responsibility. You do what you want and then we will hold you responsible for what doesn't work." This is a major question which needs resolving if we are to clarify the issue of who shall determine the policies of the school.

Now, I think that there's another underlying issue that needs attention: Why are teachers and our educational institutions in general held in such low esteem? In part, I think, it is because of the very success of the schools. The fact that so many people have become educated, the fact that so many people have been able to go to college, means that there are many more educated people who can now look down upon teachers. It is the very success of educational institutions which has brought them relatively lower status within our society.

Some of the public disdain for schools is a response to the way the schools are controlled politically. School boards and school superintendents engage in a constant series of phony changes and phony innovations in order to prove to the public that they are trying harder and doing new things. Every three or four years the school superintendent is fired. The district then hires a fired superintendent from another district. We have a game of educational musical chairs, where educational programs are moved around from district to district with only slight changes.

Most educational experiments are doomed to succeed. School administrators never acknowledge failure. Every experiment engaged in is a proven success. School boards proclaim it's a success because they've got to get re-elected. The teachers proclaim it is a success because they don't want to be blamed for failure. We have to fight all of these phony gimmicks: innovation for the sake of public relations, performance contracts which guarantee the magic cure which no

one has, vouchers which say that the public schools should become a kind of a supermarket system where if you don't like one cereal, you go to the next brand. We teachers have to become a very strong force for honest and real educational research. There must be a compendium of what works and what does not work. There must be an opportunity for people to be recognized and praised for admitting failure.

Teachers will have the opportunity to help determine educational policy but not at the bargaining table. They will have a voice through the development of a national teacher movement, a movement of three and one-half million teachers across the country, who will have the ability to influence national policy. The greatest influence will come by finding better ways of doing things, of putting truth on the table. This requires honest research, and the way to make sure that honest research is carried out, that it is disseminated and that decisions are made on the basis of it, is to develop political muscle. That is what we're doing through the development of our unions and that is what will gain for teachers a fair voice in the determination of educational policy.

THE ROLE OF THE STUDENT IN A PERSON-CENTERED PROGRAM

Susan Dalziel

Project Change
State University of New York at Cortland

INTRODUCTION

The purpose of this paper is to explore virtually uncharted territory in education: the role of the student. The role of the instructor is discussed here only insofar as it relates to the student's role.

If you think that's a one-sided emphasis, you're right. But I have what I regard as a good reason for highlighting the student's role. Fashioning a person-centered approach to teacher education has for me, until recently, meant spending most of my professional time attending to my role as instructor. I have worked out the diversity of this role in practice, talked out its ramifications in philosophy, read about its possibilities in current professional literature. In so doing I have been guilty, in Piaget's terms, of "failure to decenter." In focusing so intently on my responsibilities as a teacher, I have neglected something which is absolutely fundamental in any learning situation: the role and responsibilities of the student. I am now learning that the quality of a course experience, for individuals and the group, is greatly affected by how well I have communicated--and how well the students have internalized--what their role is.

No one would dispute that students have an active and important role to play in any program that is centered on supporting the development of the individual person. But compare the paucity of what has been written about the student's role in a person-centered program with the wealth of written wisdom about the role of the teacher.

What accounts for this curious discrepancy? Why does the literature of open education, ostensibly student-centered, have next to nothing to say about the role of the student? Granted, much has been written about children's activities in an informal classroom. It cannot be assumed, however, that learning automatically accompanies overt activity. Other writings (e.g., Blitz, 1973, Brearly, 1970) describe how to develop a truly child-centered curriculum, one that is organized around children's needs and interests. But my experience with courses for teachers has taught me that while it's important to provide opportunities for active experiences centered on learner interests and needs, it is not enough.

It is simply not sufficient to conceive the student's role as only a response to conditions set by the role the instructor assumes. To say to a student, "Here are the options; you decide among them or devise a meaningful alternative" is not enough. To present students with a set of flexible course requirements that they can tailor to individual situations and needs is not enough. Having regular course evaluations to get feedback on student needs and course quality is not enough. No matter how much or which kinds of assistance to learning the instructor gives, it is not enough in itself.

Why not? What would be enough? To those difficult questions the next five sections of the paper are addressed. Each raises a distinct issue and offers a different perspective on understanding and developing the role of the student.

Scope of the Paper: Five Issues

The first part of this essay will come directly from my experience as a college instructor with Project Change, an evolving person-centered graduate program for teachers of preschool and elementary school children. My question here is, What are the points of contact, the interrelationships, between the instructor's role and the student's role in a college program?

The second section asks, What is the role of the child in an open[1] classroom? Answering this question leads directly to another: What are the implications of the child's role in a classroom for the role of the adult learner in a college program? Where are there parallels between the learning and development of children and the learning and development of teachers? Where does the translation from "child" to "teacher" become less direct, requiring adaptation and imagination? The third section begins with an exploration of possible answers to those questions.

It is at that point in the paper where the role of the instructor needs to be brought into the discussion. The latter half of section three asks, What are the parallels between the role of a classroom teacher and the role of a college instructor? What are the <u>teaching</u> responsibilities that encourage <u>learners</u> to assume the responsibilities of their role?

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[1] "Open" is the term usually applied to education at the elementary level that is supportive of all aspects of individual learning and development. "Person-centered" is the term used in this paper to describe education at the college level that is supportive of all aspects of individual learning and development. Philosophically, the two terms are interchangeable.

The last two sections are practical. The fourth suggests direct actions an instructor can and should take to help students become more aware of the nature and importance of their role. The concluding section suggests direct actions students can take to bring their role as learners into its fullest being.

I. RELATIONSHIP BETWEEN THE INSTRUCTOR'S ROLE AND THE STUDENT'S ROLE IN A COLLEGE PROGRAM

There is a basic dichotomy inherent in the teaching/learning relationship. The purpose of teaching is to help people learn. In my role as instructor I could do everything I know how to teach, and the learning that actually occurred would still be the exclusive province of the student. (I can teach you; I cannot "learn" you.) It is very important to make this distinction. Changing teaching behavior will not automatically change the kind and quality of the learning. It will change only the teaching--the extent to which people are helped to learn. Changes in the kind and quality of learning are dependent upon changes in the learning behavior.

Last semester I tried changing my approach to reading assignments in one graduate course on early childhood curriculum. Rather than using bibliographies or a text, I decided to use three outstanding articles (by David Hawkins, 1970) highlighting the interactive relationship among the teacher, the child, and the materials, to be read and re-read at different points during the course. It was a direct attempt to help people read with more maturity--to get more depth, more personal meaning, and to become more open to the learning that can come from reading. Most teachers in the course found the approach, in a word, repetitive. Why? There had been no change in the learning approach to correspond with the change in the teaching approach. They had used the same approach to "learning from reading" that they would have used with a text or bibliography; they read the articles for immediate meaning the first time, and did not upon re-reading try to find new insights, new connections, and changes in their reactions. Knowing now that the dichotomy of the teaching/learning situation can influence expected outcomes, I'll be paying more attention to the learner's perspective each time I try out a change in teaching.

Teaching and learning also involve a basic reciprocity. Every action I take to teach implies some action I am expecting from the students to learn. If I provide math materials, I am expecting students to act upon mathematics and/or engage in a mathematical process through their use. If I have discussions, I am expecting students to be actively engaged with their thoughts and the thoughts of others.

Likewise, the paths of learning that students choose help define my role as instructor. For example, the majority of teachers in my graduate-level math course this spring chose to attend all of the workshops I had scheduled as an option to personal exploration of materials. When I attempted to discourage workshop attendance in

favor of more independent learning, people let me know that the workshops were much more helpful to their learning than the times they had spent on their own with materials. I could have responded in two ways: (1) provide more workshops, (2) provide more help for independent learning. Either way, their learning helped to define my teaching. (In this case, I chose to provide more help for independent learning.)

Do these reflections shed any light on the role of the student? They might, if we take them a step further. Let's assume that a person-centered approach recognizes, for example, that mathematics per se cannot be directly taught. Rather, people can only be helped to learn about math. Help from an instructor takes the form of providing certain kinds of methods and materials: group play with geoboards, time to mess about with wood scraps for small construction, discussions on curriculum planning, etc. A fundamental conclusion follows: the role of the student is to learn from that which is offered.

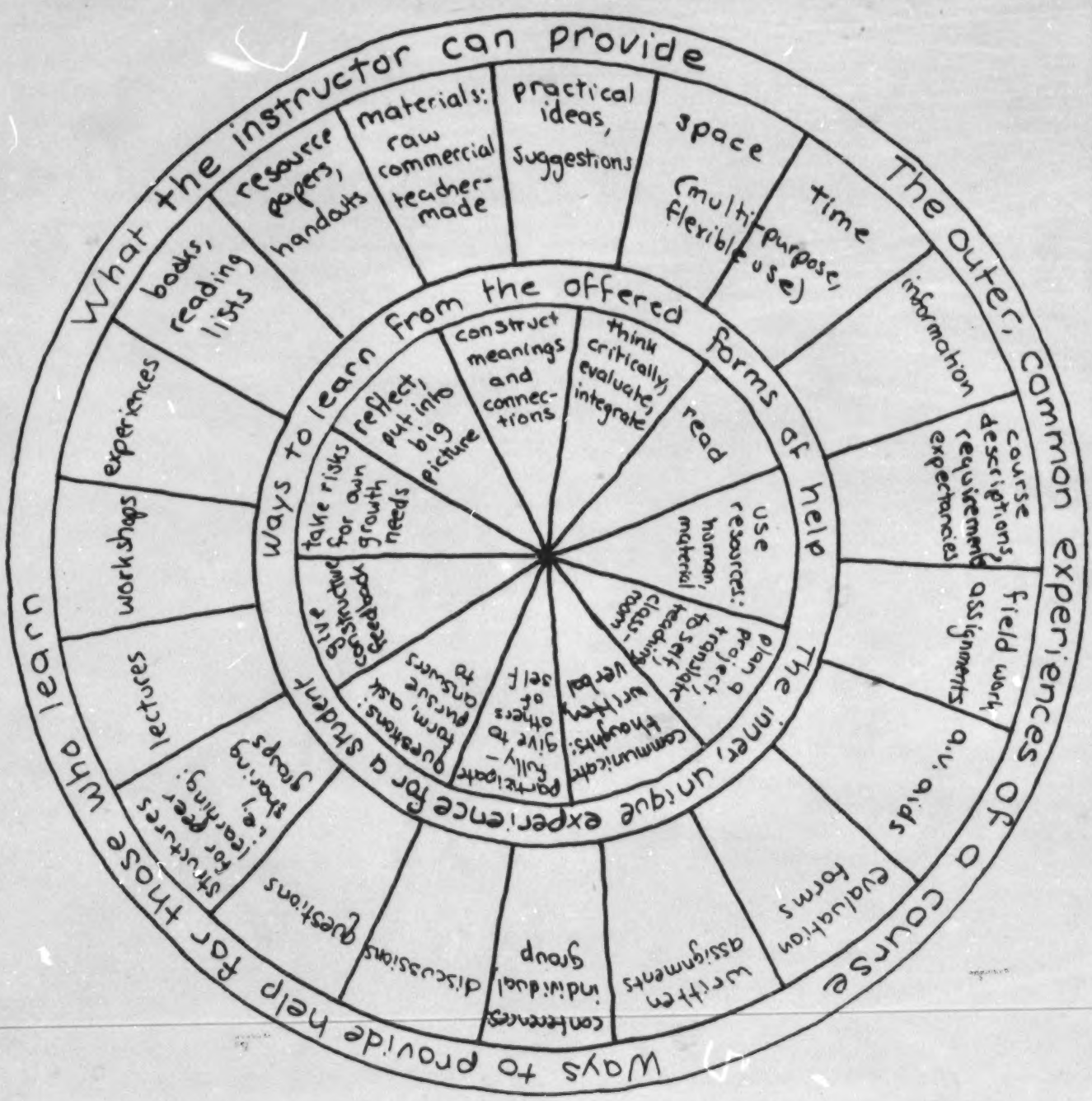
A simple illustration of the relationship between the instructor's providing and the student's learning is the lecture. A lecture can be given directly to the students by the instructor. That might be seen as providing one form of help. To offer even more help, the instructor might also provide time for questions-and-answers during the lecture, provide some follow-up materials or demonstrations to illustrate points made in the lecture, and provide some guidelines for small group discussions on the lecture. But what is learned from the lecture, the questions and discussion, and the materials and demonstrations cannot be "provided." Any learning that results from those forms of help has to be constructed by the student. Learning depends on the student's personal, self-determined interaction with the ideas and the experiences.

The diagram which follows is a symbolic representation of the relationship between the instructor's role and the student's role in a college program. As a prefatory note, let me emphasize that the teaching/learning process is a highly interactive one. The separation of roles is not as distinct in real situations as this discussion and the diagram would seem to indicate. But the distinction is helpful when making a conscious effort to better understand the relationship.

The outer circle suggests some things that an instructor can provide to help students learn. The inner circle suggests what might be done by a student to learn, having been offered those forms of help. The lists are not exhaustive--I have selected from my own experiences as an instructor.

Pause a moment to consider some implications of the wheel. The outer circle really describes the outer experiences. They are some of the obvious elements of a teaching/learning situation, and could be provided by the instructor for either individuals or the group. I characterize these elements as the "common experience." When some-

INSTRUCTOR/STUDENT ROLE WHEEL



one asks me or a student to describe a course, the parts of the outer circle are what we are likely to name.

The inner circle, on the other hand, describes the inner experience. The student has to use these processes in order to construct his/her own learning, and give it coherence and personal meaning. They cannot be provided by the instructor; they have to be provided by the student. I would characterize these as the "unique experience." We would be likely to refer to the parts of the inner circle when describing the individual student's participation in a course.

Would the roles of teacher and learner be any different if a program were not person-centered? Oh, yes! First of all, the person-centered approach requires an instructor to decenter--to pay less and less attention to what s/he thinks s/he is teaching and more and more attention to what students are actually learning. No matter how well the role of the instructor is understood and implemented, it will get nowhere without a comparable measure of real and active involvement on the part of students. The outer circle needs the inner circle. What is taught cannot be learned otherwise.

In turn, the nature of the program dictates the nature of the learning to be prized. In a person-centered program, the learning which is valued is lasting rather than short-range, process more than content, and contains more personal elaborations than pieces of information. The inner circle needs the provisions of the outer circle.

II. THE ROLE OF THE CHILD IN THE OPEN CLASSROOM

Little has been written of the child's role in the open classroom. I could locate only two sources that provided specific ideas. Vincent Rogers' (1970) Teaching in the British Primary School, has a chapter by Marie Muir entitled, "How Children Take Responsibility for Their Own Learning." And Hassett and Weisberg's (1972) Open Education: Alternatives Within Our Tradition, includes a chapter on "The Role of the Child." You may wish to read these yourself for greater detail. The major points will be summarized here to provide a source of possible parallels between the role of the child as a learner and the role of the college student in a person-centered program.

At the center of the role of any student is the art of learning. Hassett and Weisberg state firmly, "The child's fundamental role is to learn and to learn how to learn." Muir describes the art of learning as taking responsibility for (1) what to learn, (2) how to learn, and (3) when to learn.

Being responsible for what to learn requires having opportunities to choose. The open classroom has a diversity of materials and activities to encourage choice in what to learn. Simply making choices, however, will not insure learning. "Before you can be responsible for something, you have to become aware of its nature and understand

it. Children take time to become aware of 'learning' as a conscious pursuit" (Muir, 1970).

When I was teaching a multi-aged open classroom (ages 6-9), I always had a "together time" after a block of free choice time. The purpose of the discussion at these sessions was to help children become conscious of their learning. It was easy for a child to tell what he had chosen, or what the nature of his activity had been. It was more difficult for a child to respond to: "Tell us about an idea you had as you were working on that." "Can you tell us something you learned?" "Was there a question you thought of and then tried to answer?" I recall that it was well into November before the children had a keen awareness of their learning.[2]

In exercising responsibility for what to learn, children also need frequent consultation with the teacher. This is an example of the highly interactive relationship between the role of the learner and the role of the teacher. Consultation with young children can take place informally as a teacher moves about the classroom, observing and listening to difficulties and offering possible solutions. Common difficulties are often spotted in this way, leading to some small group instruction to meet those needs.

With older children, the consultation and decision-making can be more formal. If a group of children propose to study "famous explorers," for example, the teacher may ask them to decide first if the topic is too wide or wide enough to be worth pursuing in the time available. (Let's look through some books and make a list of explorer's names. Would you like to choose 5, or work on just American explorers, or work on those who discovered new land?) Secondly, each member of the group might be asked to prepare suggestions for what the investigation could include (map-making, museum visit, weapons construction, creative drama, scale model building, etc.). Third, from the compiled list of suggestions, useful and interesting aspects to study need to be selected and agreed upon. Which ones are feasible? How long will they take? Where in the study--beginning, middle, or end--should related experiences occur? What sources of information could be utilized? How will the work be organized? All these are topics for joint consultation.

Taking responsibility for <u>how</u> to learn also has a prerequisite. It requires that the child understand that all things to be learned cannot be acquired through trial and error. "It takes quite a long time for most primary school children to understand...that some kinds of learning do not suddenly reveal themselves...that effort and practice are required from them and sometimes help from teachers. Only as they begin to realize this does how to learn become a meaningful problem" (Muir, 1970). Learning to read could be a prime occasion

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[2]For another discussion of this issue, write for: "The Celebration of Learning," by Susan Dalziel. <u>Project Change Mini-Book</u>; Feb., 1975; Vol. 3, No. 1.

for most children to come to this realization. It's unfortunate that most teachers do not focus children's attention on the underlying elements of effort and practice required in learning to read, or on the variety of "how to's" employed in the process: in short, on learning how to learn.

Deciding when to learn is a responsibility that can be exercised only in an environment where choosing not to learn is an option. "Learning" or "not learning" depends on how the child defines each situation at a given moment. One child gazing out the window may be mentally composing a story about the squirrel he observes there; another may be wondering when it will be time for lunch. The quiet corners and private spaces usually present in open classrooms are manifestations of the recognition that children cannot maintain peak interest in learning all day every day. Children have a right to set the tempo of their own activity--which includes taking responsibility for when to learn.

Throughout this discussion of the child's role in the open classroom, I intend "learning" to encompass all phases of growth and development--cognitive, psychomotor, emotional, and social. Within each of these areas, there are many aspects that need attention. Social learning, for example, includes developing self-discipline, cooperative skills, and respect for persons. Learning, indeed, has many facets.

III. PARALLELS BETWEEN ROLES IN AN OPEN CLASSROOM AND ROLES IN A PERSON-CENTERED COLLEGE PROGRAM

Implications of the Child's Role for the Role of the Adult Learner

I have come to three conclusions about adult learning in a person-centered program as a result of studying the role of the child in the open classroom: (1) the role of the adult learner is to take responsibility for your own learning, (2) being responsible for your own learning as an adult means taking responsibility for what to learn (which includes opportunities for choice, awareness of the nature of learning, and frequent consultation), how to learn, and, to a lesser extent, when to learn, and (3) the learner can perform his/her role best when the teacher's role is performed most effectively (Hassett and Weisberg, 1972). Let me speak first about conclusions (1) and (2).

A person-centered approach to graduate education consistently offers opportunities for choice in what to learn. To quote from a description of my course on curriculum development for teachers:

> The focus of this course is the development of some aspect of your curriculum. In most cases that takes the form of selecting and designing learning experiences and materials that match some aspect of your curriculum that you would like to enrich or make more child-centered. In some cases it could mean actually designing a space, an environment within which those activities take place....

This choice in course project may be coupled with choice of materials and activities to pursue during class time. But, as is the case with children, simply choosing will not assure learning for adults. A sixth-grade teacher in my course on early childhood mathematics last semester confessed that he'd had a good time choosing from and playing with different math materials, but said he hadn't learned anything from that activity.

If the opportunity to choose does not help the adult take responsibility for what to learn, it may be that other conditions necessary for responsibility are missing. The learner should, first of all, have a familiarity with the nature of learning. Adults, like children, may need time and experiences to become aware of what is involved in learning--to understand that some kinds of learning do not suddenly reveal themselves. During an initial session on Piaget in our "Institute in Personal Learning and Classroom Development" this past summer, one of my colleagues created a good deal of student disequilibrium by asking them to break into small groups to discuss what in Piaget's work could be considered "theory," what "fact," and how they could distinguish between the two. The reactions: How can we do that? You're the one who knows about Piaget! What are we supposed to learn from each other when we're all equally ignorant? Reflecting on the incident in a subsequent evaluation session, one student said, "I didn't enjoy it...it made me think hard." Another said it was a good idea to ask people to think critically, but suggested it would be so much more efficient ("I would learn so much more") if the material on Piaget were simply presented in lecture form.

This example serves to highlight several erroneous assumptions about learning. One is that being uncomfortable in a learning situation means that you are not learning. Quite the contrary is more accurate--the right amount of disequilibrium is a catalyst for learning. The request for Piaget lectures may have been based on the assumption that a lecture would make learning suddenly occur. The occurrence of learning is due to a process <u>within</u> the learner's mind--not due to some outside words or events being pasted onto the mind. And finally, the above example assumes that immediate learning--that which the learner can state right away--is the best measure of the value of a learning experience. In fact, immediate learning may be temporary and of little value. A person-centered program prizes lasting, process-oriented, personally constructed and elaborated learning. That kind takes longer, is more difficult, and requires considerable reflection from the student on the very nature of learning.

The third condition necessary for an adult to take full responsibility for what to learn is the use of frequent consultation. The fellow who stated that he didn't learn anything from playing with math materials might have benefited from a conference at the beginning of each class to help him decide upon the content and purpose of his activity: "Why have you chosen this material? Tell me some ideas you have about working with it. Will you use the material to demonstrate some mathematical principle, or to discover one?"

For an adult, as for a child, the easy part is choosing and doing an activity: it is far more difficult to focus on the learning involved. It is also known that too many questions can inhibit learning. So can too few. Consultation is a delicate art--enhancing learning by asking just enough questions at just the right time.

The difference between the child learner and the adult learner with regard to consultation, is that the adult learner can more readily assume responsibility for initiating consultation. Adult learners seem better able than children to identify their needs in a teaching/learning situation. It could be said that the role of the college student is to seek out consultation with the instructor as the need for it is felt.

Taking responsibility for how to learn has two aspects in a person-centered college program. The first is how to learn about something of interest: moral development, the Cuisenaire Rods, record-keeping in an open classroom, the language experience approach to reading, and so on. The second is how to learn from a given teaching/learning situation: lecture, workshop, use of materials, peer interaction, independent investigation, and so on.

In the first instance, the student would have already gone through the process of carving out what to learn, and needs to extend that with further questions and decisions. Where could I find resources? Which kinds of resources would provide the most help? What can I do on my own, and what will I need help with? What's a logical sequence for the investigation? Is there a practical aspect I could try out? How will I organize and present my learning? [3]

The second aspect of how to learn, learning from a given teaching/learning situation, is one of the more difficult roles for students to assume. Part of the difficulty stems from unfulfilled expectations; part stems from past experience.

This past summer our students came to the Institute expecting to have plenty of time to make classroom materials. Instead, much of their time was devoted to activities in interest centers for learning on an adult level (e.g., making a wood sculpture); materials-making had been scheduled for an extra day in the week. By the end of the summer, a few people were still equating "opportunities for making materials" with "worthwhile learning experience." Since they weren't satisfied with the opportunities for making things, they weren't satisfied with their learning. Others were able to revise their expectations and define a worthwhile learning experience in terms of what was actually happening. In taking responsibility for how to learn,

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[3] For an outstanding example of a project that reflects careful attention to questions such as these, see Margaret Manring's chapter on "Hostility and Humor" in this book.

part of the student's role is to be flexible--able and willing to revise expectations and mine an experience for all the learning it can yield.

Past experience can be an influence, too. If a teacher in a course has used attribute blocks only to help the children in her classroom learn, she may find it hard to shed the role of teacher and discover how to learn from the attribute blocks as an adult. If all of a student's previous graduate courses have been taught by the talk 'n' chalk method, she may not know how to learn from a workshop. That works the other way, too. When college students are used to learning in a person-centered course, they may have trouble in learning from a content-centered or teacher-centered course (much like the 1st-grader who after a year in an informal classroom encounters a very traditional one). If we believe, however, that any teaching/learning situation holds the potential for worthwhile learning, the learner has an obligation--a moral obligation, really--to try to discover how to learn from it. "The difficult, after all, is not the impossible" (Louis J. Rubin, 1973). As one student said, "Even in the very worst courses I've taken, I've developed new insights, new ways of looking at things, new integrations. You don't have to have a great instructor, or even a good one, in order to do that."

The choice of when to learn is not a very real choice for graduate students. They are socked into a course that meets at a set time, for a prescribed amount of time--whether or not they are tired, ill, or uninterested that day in learning. In general, that time is viewed by those in our graduate program at Project Change as time set aside from their busy teaching schedules <u>to learn</u>.

Project Change has created some innovations within the standard time framework: (1) a Saturday course that schedules 15 sessions in the on-campus Teacher Resource Center; teachers in the course attend any 10 workshops of their choice, (2) a Summer Institute that meets from 9 a.m.-3 p.m., Monday through Thursday, for five weeks, (3) a Fall Institute that meets for 5 hours, one night a week, for a semester, and (4) a field-based course that takes place in an area school and designs class time to include day-long visits by the instructor to the school as a consultant, or ½-day workshops by the instructor.[4] Each of these innovations leaves room for collaborative planning among students and the instructor regarding the use of time. If these changes more closely approximate the time framework of an open classroom--and I feel they do--then the choice of when to learn has become more real for our graduate students. The student's role in assuming responsibility for when to learn in these situations is to contribute to discussions and decisions about the use of time.

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[4] For more information about these innovations and other aspects of Project Change's approach to teacher education, write for <u>Project Change: Progress Toward Objectives in Teacher Education, 1974-1975</u>, by Thomas Lickona.

Implications of the Teacher's Role in an Open Classroom for the Instructor's Role in a College Program

When the teacher's role is effectively performed, the learner has the greatest chance of performing his/her role fully. What are the responsibilities of the teacher's role that contribute to learner effectiveness? Muir (1970) describes three:

1. "...teachers must retain responsibility for determining the areas within which children's [student's] decisions are desirable and effective." One of the goals of our Summer Institute, for example, is to have people experience an in-depth learning situation--to choose an area of interest and explore it as fully as time and resources will allow. But we had some students say that they would prefer a smorgasbord approach: "Couldn't we divide our time among all of the interest areas? I don't want to miss out on anything!" The staff felt that a wholesale accommodation to that request would be neither desirable nor effective in light of our goal of in-depth involvement. Instead, an occasional block of time was opened for students to go to other interest areas, and some common experiences among interest areas were planned.

2. "Sometimes, too, teachers need to make it clear that those who teach (as well as those who learn) need to establish certain conditions, if their work is to be productive." Some of those conditions are organizational (managerial?); for example, the need for care to be taken with materials and other resources. Some of those conditions are professional. I do not feel productive, for example, when I give one-shot workshops or seminars. I need a certain amount of continuity with the people, processes, and ideas involved in a course. If someone asks me to do a workshop on record-keeping in my math course, I have to either find a way to relate it to the continuity of other ideas we've been working on, or suggest some ways I could meet that need individually.

3. "...a teacher's responsibility lies in trying to ensure that the choice of what to learn is offered to children [students] in the context of that which is likely to be of enduring rather than ephemeral value..." Sometimes it's hard to get a consensus on what is enduring and what is ephemeral. A student in one of my courses wanted to spend all of her class time making materials for her classroom. That may have been a wise use of some of her time; I wasn't so sure of the lasting value of spending all of her time that way. This past summer one of my students asked me if we would be learning some quick and easy ways of setting up displays in the classroom. I said no, but we would be spending a couple of days developing our own displays. The latter approach seemed to me to hold much more potential for personal learning that could be of enduring value.

In addition to these three responsibilities of the teacher, we can draw some implications for effective teaching directly from the role of the student. To help students take responsibility for their learning, the instructor needs to (1) provide opportunities for choice--in what to learn, how to learn, and, where possible, when to learn, (2) provide opportunities for students to talk and think about the nature of learning--to become aware of and familiar with how it happens, how it feels, what effect it has, (3) provide the time and the vehicle for frequent consultation with students in order to engage students in active decision-making about the content, purpose, and process of their learning, and (4) make all of the above an integral part of courses, giving these responsibilities substantial attention.

IV. FURTHER PRACTICAL SUGGESTIONS FOR COLLEGE INSTRUCTORS

If you are a college instructor, you can take some or all of the following steps to pay greater attention to the role of students in the courses you teach.

You can begin by sharing with students what's been written about their role. Hand out this paper, or one you've written to express your thoughts on the issue. One of my colleagues, for example, is preparing a "letter to students" to be handed out in the first session of his course. In it he will describe some of the ways in which students can take responsibility for their own learning during the course: e.g., defining what they want to learn from the course experience, deciding what to learn about in relation to their own teaching, classroom, and curriculum; arranging for a consultation with the instructor to discuss their decisions about what to learn.

You can also make available the previously discussed chapters in Rogers (1970) and Hassett and Weisberg (1972). Ask students to try substituting the words "adult," "instructor," and "college course" for "child," "teacher," and "classroom" as they read.

A practical follow-up would be to provide time for your students to react to what they read. Have group discussions on the role of the student. Find out what their reactions are to the ideas they've encountered; what are their thoughts on the issue? One of the best ways to clarify thinking is to try to express your thoughts clearly to someone else. To quote one of my students who read this paper, "The role of the instructor is to initiate a dialogue in which each student can begin to stretch and change his/her conception of his/her role" (Fortess, 1975).

The previously discussed role wheel might stimulate some discussions. Starting with a blank wheel, the instructor could describe plans and goals for the next few weeks of the course, for example: "During the next 4 weeks we will be exploring the topics of number, measurement, space, and logical thinking, in order to begin planning

a balanced math curriculum." The instructor could then fill in some of the spaces in the outer wheel with what s/he will be providing to help students learn: a display of logical thinking games, a workshop on measurement, an interest area on number operations, specific books and papers, etc. Then ask students to project what their role will involve during the coming four weeks--what will be needed in the inner circle of the wheel? I would suggest leaving some blank spaces in the wheel to allow for reciprocal suggestions.

And finally, readings, discussions, and reactions need to be acted upon. One way instructors can help students act upon ideas about their role is to design an open-ended learning contract. This contract would help each student define how to take responsibility for what to learn and how to learn.[5]

Students often ask for examples of other student's work. It helps them understand in concrete terms what the course requirements entail. Lately our staff has discussed the value of sharing a variety of previous students' work, making copies of exemplary papers available.

Rather than focusing on the content of student papers, we would use them as a basis for examining the role of the student. In what ways did the author of a project take active responsibility for learning? What aspects of their role do you think they understood and fulfilled? These questions could be another way of helping students to act upon ideas about their role.

Structures for sharing can also highlight the role of the student. As Muir (1970) has said, "...One of the greatest inducements toward taking a responsible attitude toward your own learning is to be in a position of being responsible for what someone else learns from you." Like other structures in our person-centered approach at Cortland, the ones designed to help people teach others have had to undergo constant refinement. Students have to feel that sharing is genuinely growth-producing--not just a repetition of those horrible fourth-grade experiences with social studies units.

One of the best structures for sharing I've found is small-group planning. The small group is collectively responsible for gathering information on a topic, for selecting what to present to the class, and for deciding how to present (truly teach) that which they have selected. Members of the small group are then individually responsible for such things as preparing a handout, setting up a display, planning and carrying out a class activity, and making or gathering any materials that will be needed.

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[5]For more information on open-ended learning contracts, see Carl Rogers (1969), Freedom To Learn, p. 133; or Barbara Blitz (1973), The Open Classroom: Making It Work, p. 91.

I have suggested here what seems to me to be a logical sequence of steps for instructors who wish to pay greater attention to the role of the student: (1) share information and questions about the student's role, (2) have students react to the information, and (3) act upon the information and reactions to it. Is this some kind of agreed-upon formula for success? No. Until we have had experiences with some of these ideas in courses we teach, three open questions remain. First of all, When is the optimum time to initiate discussions on the role of the student? Is it during the first class meeting? Is it after you've had some time to establish the environment for teaching and learning, the human climate of interaction? Secondly, How do you begin? What kinds of experiences are thought-provoking introductions to the role of the student? And finally, Where and how far do you take it from there? What is "enough attention" to the role of the student on the part of the instructor?

My best suggestion is simply to begin. The answers we seek will emerge from experience.

V. FURTHER PRACTICAL SUGGESTIONS FOR COLLEGE STUDENTS

If you are a student in a college program, the following suggestions may help you construct your own role as a learner.

In any learning situation, try beginning with some personal reflection. What do I want to get out of this experience? What am I going to do to insure that that's what I get? As Dewey said, "A well-posed question is half the answer" (quoted in Rubin, 1973).

To reduce the natural discomfort one feels in any new learning situation, you might put your role on paper. List the situations for the course (reading, workshops, classroom application, etc.), the instructor's responsibilities in each, and your responsibilities in each. This can be done right at the beginning of a course, as soon as you get a course description. Last semester, some students in my mathematics course did this in a small group. Here are two samples from the list they made.

THE SITUATION: what the instructor has chosen to do to "teach" the subject	INSTRUCTOR'S RESPONSIBILITIES: what to do to help people learn from the situation	STUDENT'S RESPONSIBILITIES: what to do to learn from the situation
1. experiences: ex.--class activity to build a tall construction with straws and tape	1a. pay attention to the classroom climate	1a. participate
	1b. make the intent clear	1b. contribute to the experience: bring in objects, experiences, questions
	1c. provide materials	1c. be willing to take risks
	1d. provide direction	1d. be open, flexible
	1e. be prepared	1e. react
		1f. prepare
2. discussions: ex.--using math texts in an experienced-based program	2a. moderate	2a. participate
	2b. keep on impersonal level	2b. question
	2c. know the topic	2c. listen
	2d. think of questions	2d. appreciate
	2e. add/contribute to	2e. speak concisely
	2f. maintain control	2f. apply to own situation
	2g. sustain discussion	2g. stick to the point
	2h. keep stimulating	2h. do follow-up thinking
	2i. support members	

Each element of the course should be listed separately, including such "incidentals" as handouts and displays. Simply listing, of course, will not supplant actual experience. But it will give you a head start on realizing the significance of your role as a student, as well as uncovering some of the unknowns of a new experience.

The teacher participants in our Institute this past summer tried a similar approach to understanding their roles as learners in what was, for most, a new situation. They began by describing their goals for children, as learners, within their own classrooms. To the right of the list of goals, they made a list describing responsibilities of the teacher's role implied by the goals; to the left they made a list describing implied responsibilities of the child's role. Throughout their discussion, the teachers referred to their situation as learners in the Institute to find similarities between (1) their roles as learners and the role of the child in their classrooms, (2) our roles as instructors and their roles as classroom teachers, (3) the Institute goals and their own classroom goals.

These are forms of consciousness-raising. The lists are not in themselves important; it's the heightened awareness that results from brainstorming a list. Taking direct action on your role as a learner is hard to do unless you have first engaged in some form of reflection on your situation as both learner and teacher.

Providing <u>feedback</u> to the instructor is a very important way to act upon your role as a student. <u>Early</u> feedback is especially crucial. I had a student tell me, three weeks before a course ended, that the reading had been totally meaningless to her. The feedback was important--she might have substituted other reading, for example--but the timing robbed it of a number of possible solutions.

The most constructive feedback an instructor can get pertains to how much and how well a student is learning. Usually course evaluations are designed to draw that out. On the other hand, evaluations are likely to be anonymous, so the instructor typically ends up with only a global picture of course effectiveness and direction. If you have an individual need, express it individually. "I want to know more about questioning techniques" and "I'm not learning what I set out to learn" are personal needs that should be individually expressed.

The more accurately you can define your needs, the more readily the instructor can provide some help. One of my students insisted he was getting nothing out of the math course because he'd "already read Piaget," because every other course he'd had also required sharing (and he'd been totally bored each time), and because the course wasn't telling him "how to do it" in his classroom. A more accurate definition of his needs might have been for him to list specific questions he was wrestling with, and specific needs he wanted the course to help meet, as well as to decide where in his classroom situation he'd like to begin "to do it." I realized--regrettably, too late--that some information from me on the role of the student could have helped him get a handle on his problem.

In addition to providing feedback on what <u>is</u> happening, feel free to suggest <u>alternatives</u> that might be more meaningful--both to you and others. The best way to decide if a suggestion is meaningful is to decenter--to take into account how it may affect the other

students and the instructor. Will your proposal help, hinder, or have no impact on how much and how well others are learning? Will it preserve the continuity of ideas that have been woven through the course so far, the quality of interaction that has been established, and the agreed-upon goals for the course? Will it strengthen the instructor's role of helping people learn? These questions may not be possible to answer prior to actually trying out a change, but having them in mind can still be a useful guide for making suggestions.

When students in my math course last semester were experiencing some difficulty sustaining real involvement with materials for two hours of class time, I asked for their suggestions. One person suggested that I teach people how each material--Cuisenaire Rods, geoboards, unifix cubes, attribute pieces, and the like--was "supposed to be used." Another suggested that (1) I handout the David Hawkins (1970) article "Messing About In Science" for people to read, (2) we have a class discussion on "messing about", (3) the class then try to apply some of the ideas from the article and group discussion on messing about to their own involvement with math materials, and (4) I should free myself from other teaching roles at that time (conferences, mini-workshops, etc.) to concentrate on floating around to ask questions and offer suggestions as people were working with materials. This series of four suggestions, taken together, represent a good example of decentering in making a proposal to improve a course.

All of these points rest on a key principle: everyone has to have an active commitment to making the course succeed. The instructor cannot be solely responsible for the quality of the experience. Quality comes from individual and collective contributions. One of the more important questions I've ever put on an evaluation form is the following: "In what ways have you contributed to the quality of the course experience (a) for yourself, (b) for others?" Most of us, as students, have never been asked to come to grips with that question, or the premise on which it rests.

One way of stating that premise is that "You get out of a course what you put into it," as one student quipped. I think that this axiom is "known," in the same way that the Golden Rule is known. It's familiar, often said, but hasn't really been internalized. It hasn't been put into action in day-to-day situations.

What you put into a course includes more than what you put into your own course project. It includes what you put into the quality of the learning, the quality of the classroom climate, the quality of human relations, the quality of personal growth. In the center of the Role Wheel is the responsibility to "participate fully--give to others of yourself."

What can you contribute that affects the quality? There are a number of things that come to my mind--actual materials and resources, questions, experiences, discoveries, talents and expertise, information about yourself, your interests and work in progress, an interest

in and appreciation for others and their work. But I'm only partially satisfied by those possibilities. Perhaps because they are the obvious contributions and I recognise that subtle ones may be even more important.

A subtle contribution to the quality of your own learning is to be able to get new meaning from familiar experiences. Suppose you have attended a workshop on Piaget's stages of cognitive development and you find that an instructor is going to talk about those stages in a class session. Why is this nevertheless an opportunity for new learning?

First of all, different people present a topic in different ways; they bring to the subject their own connections and personal elaborations. Secondly, hearing the same person present the same topic more than once does not necessarily mean they are presenting the same thing. Instructors may change their presentation each time, either because their understanding takes on new dimensions with time or because the context changes (e.g., from a workshop for preschool teachers, to an introduction to a course, to a presentation for a conference on open education, etc.). And finally, the time between your previous experience and the current situation enables you to bring new thoughts and experiences to bear on the topic.

The converse is also true--being able to find something familiar in new experiences contributes to the quality of your learning. If spending two hours constructing something with glue and wood scraps doesn't seem remotely related to your situation as a music teacher, for example, try to find some elements that the experience and your situation do have in common. It may be something as simple as relating your feelings about the task to feelings your children have had as learners, or something as complex as finding a way to use small construction to help children acquire some music-related insights.

Without these two efforts--to find new in the familiar and familiar in the new--the range of experiences from which you could learn would be tremendously narrowed. Put another way, the quality of your learning will be enhanced by broadening the range of situations from which you can learn.

Contributing to the quality of others' learning has two sides. One is to be a teacher in the best sense of the word--to share with others what you know, think, and have experienced, in a way that contributes to their growth and development. As a case in point, I've noticed that teachers who have been "doing open education" for quite a while have difficulty sharing their insights with other members of a course who have just begun to try it out. The difficulty comes, I think, from wanting to impose on others an approach that you find personally convincing, rather than to teach them--to offer questions and suggestions that could help others develop that they find convincing.

The other side of the issue is to help others teach--to make the effort to reward someone else for their contributions. I once had a student who used every class session, no matter what the topic, as an occasion to relate his past experiences with and knowledge about the subject at hand. His constant "giving" was making the rest of the class very uncomfortable. I tried to help him see that this behavior left others with the feeling of not being able to contribute anything to his learning. Contributing to the quality of others' learning has to be balanced by a receptivity to and appreciation for what others can contribute to you.

And finally, fairness is a real, though subtle, contribution to the quality of a course experience. Fairness to the instructor and to yourself is a matter of keeping things in perspective. That may sound obvious and easy, but judging by some of the evaluation comments I've heard, it's easy to say but difficult to do. One person said that my math course had "too much lecture," whereas in fact I gave only one lecture during the 15 week course. A student in one of my colleague's courses complained that he "read from books" too much. He had done it twice during the course. "I wish you wouldn't change the assignments so much," was another comment. The student making the comment had been absent from a session of the course in which the class had asked for clarification of an assignment, and they and the instructor had devised a mutually agreeable modification.

How long does it take to internalize the role of the student? I don't know. I do know it takes constant effort. What's the best way to begin? I'm not sure. Thoughtful student responses to this paper might be one way. I am sure that just being conscious of the significance of the role of the student will help us both--instructors and students.

Two occasions this past summer highlighted what a difference just being aware has made for me. One student had dominated a discussion of aesthetic education by talking about his personal interests and said to me afterward, "I tend to talk too much, so you'll have to shut me up." In the past I would have considered it my uncomfortable job to tell this person in all future sessions when I thought he was talking too much. Instead, I sought him out about an hour after he'd made the comment, and said, "Remember what you said to me about having to tell you when to shut up? Well, that's your job. It's part of your role as a student to work on that."

On another occasion I was walking down the corridor and asked a student as I passed, "Are you having a good day?" He replied, "Not so far." I started feeling badly about that, and then the role of the student flashed through my mind. I turned around to say to him before he disappeared down the corridor, "Make it happen, friend. Make it happen."

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COMPETENCY-BASED TEACHER EDUCATION: AN EDUCATIONAL ALTERNATIVE FOR TEACHERS

Alan Willsey

Campus School

State University of New York at Cortland

In the past few years the idea of competency-based teacher education (CBTE) has enjoyed widespread acceptance within the professional education community. In fact, many state departments of education across the country (e.g., California, New York) have mandated that CBTE will be "the approach" for all teacher education and certification within those states.

Rationale

Unfortunately, there is little solid empirical support for the widespread acceptance of the CBTE idea. One typical review, surveying the research on teacher effectiveness, concluded that "the effect of techniques of teaching on achievement (as defined in the CBTE research) are likely to be inherently trivial" (Heath and Nielson, p. 413). Furthermore, the authors suggest that not only is there no satisfactory empirical base for CBTE at this time, but that there probably never will be.

Lacking an empirical base, much of the support for CBTE seems to result from the philosophical appeal of two of its major tenets:

1. public establishment of teaching competencies and criteria
2. development of coherent models of internally consistent systems which operationally define the focus of a particular program.

Underlying the CBTE movement is a basic discontent with traditional teacher education programs, practices, and products. Proponents of CBTE believe that publicly established competencies and criteria will encourage better teacher education programs in several ways: (1) Because the competencies are public and therefore open to critical scrutiny, they are more likely to reflect the most important and most desirable characteristics of good teaching. (2) Secondly, because the competencies are specifically stated, more precise planning of the teaching and learning experiences conducted within the program is possible. (3) Finally, because the criteria are publicly established, a more detailed accounting of a program's specific

successes and failures is available. In short, CBTE is seen as a powerful vehicle for improving the quality of classroom teaching by refining the process by which teachers are prepared and by holding teacher education programs accountable for teaching and evaluating specific skill competencies.

The necessity in a CBTE program to operationally define a focus has also been an appealing feature to the professional educational community. Course-based teacher education does not necessarily require a specific model as the basis for developing the individual courses that a prospective teacher participates in. The aspiring teacher takes whatever courses are required, suggested, or directed by his or her own advisor; whatever is not offered at 8:00 a.m. in the morning; whatever is scheduled on a night the student has a ride and doesn't bowl; or whatever the student can most easily get a "B" in. Furthermore, the usual college catalog does not contain a rationale that relates individual college courses to a larger model of those characteristics that an effective teacher should possess. Thus it often becomes difficult to trace the link between the average Education 650 course and the characteristics, duties and responsibilities, or teaching style of an effective teacher.

A CBTE program is different. It is a system, ultimately designed to equip an individual with the requisite skills necessary to become an effective teacher. These requisite skills are logically derived from and consistent with a particular conception of effective teaching practice. The direction of a particular CBTE program becomes firmly established. It teaches students to display those skills which it has defined as necessary for effective teaching. In addition a CBTE program provides credit or certifies its student, not on the basis of courses taken, but rather on the specific skills and knowledges (consistent with the model) that he or she is able to display. Therefore, the program model not only serves as an important organizing core around which competencies are defined and appropriate learning experiences planned, but also defines, at least at a minimal level, what teaching skills its graduates possess.

Despite the widespread popularity of the CBTE idea, a perusal of the CBTE literature indicates that programs face three major problems: the lack of an empirical base, the lack of established techniques for assessing competencies, and the lack of comprehensive designs for evaluation. The purpose of this paper is to contribute to the solution of the third problem by outlining a comprehensive model for evaluating a CBTE program.

The first task of evaluation is to identify the characteristics of a CBTE program and describe how they may relate to the evaluation model. Elam's statement in Performance-Based Teacher Education: What is the State of the Art? identifies three levels of characteristics for a CBTE program: essential elements, implied characteristics, and related desirable characteristics. The essential elements establish the minimum characteristics that a CBTE program must possess and those

that are most relevant to a model. The remaining two levels of characteristics may be present in a CBTE program and often are. The "essential elements" identified by Elam are as follows:

Essential Elements of a CBTE Program

There now appears to be a general agreement that a teacher education program is competency-based if:

1. Competencies (knowledge, skills, behaviors) to be demonstrated by the students are:

   * derived from explicit conceptions of teacher roles

   * stated so as to make possible assessment of a student's behavior in relation to specific competencies

   * made public in advance.

2. Criteria to be employed in assessing competencies are:

   * based upon, and in harmony with, specified competencies

   * explicit in stating expected levels of mastery under specified conditions

   * made public in advance.

3. Assessment of the student's competency

   * uses his performance as the primary source of evidence

   * takes into account evidence of the student's knowledge relevant to planning for, analyzing, interpreting, or evaluating situations or behavior

   * strives for objectivity.

4. The student's rate of progress through the program is determined by demonstrated competency rather than by time or course completion.

5. The instructional program is intended to facilitate the development and evaluation of the student's achievement of competencies specified (Elam, 1971, p. 8).

Viewing the five essential elements of a CBTE program suggests a number of issues that may influence evaluation. The three most salient evaluation issues are:

1. The need to match the conceptual level of the assessment technique to the conceptual level of the competency criteria.

2. The need for a behavioral conception of the teaching-learning process.

3. The need for a link between competencies and a clearly defined rationale or theory of teaching.

Once the competencies have been identified, they can be divided into three categories or domains. The first domain is the knowledge domain, including knowledge of educational processes, theories and techniques. The second domain of competencies is a performance domain that includes teaching practices and activities. The third domain is an output or product domain that contains competencies concerned with observable change on the part of the children being taught (Airasian, 1973, p. 16).

Turner (1972) suggests that these three domains of competencies can be evaluated at six different levels. Level 1, the lowest level, is the knowledge level at which a prospective teacher shows some understanding of behaviors, concepts or principles relevant to teaching. The middle levels, 2, 3, and 4, are three performance levels. Level 2 calls for performance, but not necessarily in a classroom, but rather in a restricted setting such as micro-teaching. Level 4 calls for performance in an actual classroom setting with evaluation based upon observable teaching behaviors. The top two levels, levels 5 and 6, are the product levels, and evaluation here is based on the assessment of the impact of the teacher on the behavior and learning of children. Level 5 uses pupil outcomes as a criterion over a short period of time (1-2 weeks), and level 6 uses pupil outcomes as a criterion over a longer period of time (1-2 years).

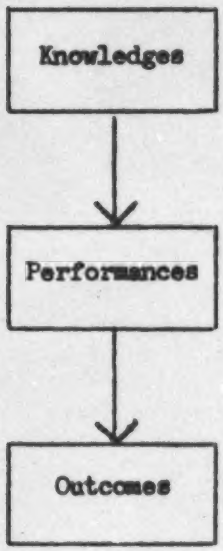
Beginning with knowledge competencies and ending with product competencies, the assessment techniques for evaluation of CBTE must respect the integrity of the conceptual level of the competency domain. The evaluation problem is to ensure that assessments of competencies be made at the same conceptual level as the competency. This means that the outcomes of a CBTE program cannot all be evaluated using a paper and pencil instrument. It is essential to use performance tests as well as a product assessment. It also recognizes that a complete evaluation of a CBTE program does, in fact, include knowledge assessments which might legitimately include a paper and pencil instrument as the most appropriate means of accomplishing this task.

The second and third characteristics of CBTE viewed together show the great need for a teacher education model specifically defined in behavioral terms. Performance of teachers and change in students are both behaviors. The following is suggested as a model that should be applicable to a CBTE program for teacher education.

The knowledge, performance and outcome continuum implies a direct linear relationship in which product is a function of performance, and performance is a function of knowledge. A teacher educa-

tion program based on this concept would be designed to introduce prospective teachers to the appropriate knowledges that lead to the appropriate performances, that in turn lead to the appropriate outcomes (See Figure A). "Appropriate" is determined by the model utilized. Internal consistency of the model is established because nothing would be taught at the knowledge level that did not relate to the performance and outcome levels as well.

Figure A



Although helpful, this representation is oversimplified. It fails to consider two important issues. First, performance is not simply a function of knowledge obtained through a particular teacher education process. Rather, performance is a function of the person's total experience. Knowledge obtained through the teacher education process, however important, is only a part of that experience. Secondly, personal characteristics of the individual play an important role in determining teacher performance. Thus the contribution of knowledge to performance can better be represented by Figure B.

Figure B

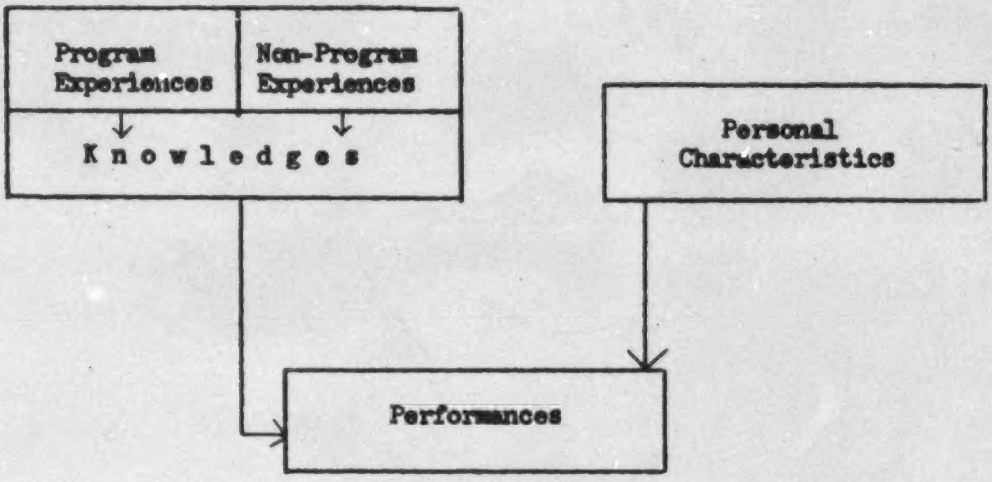
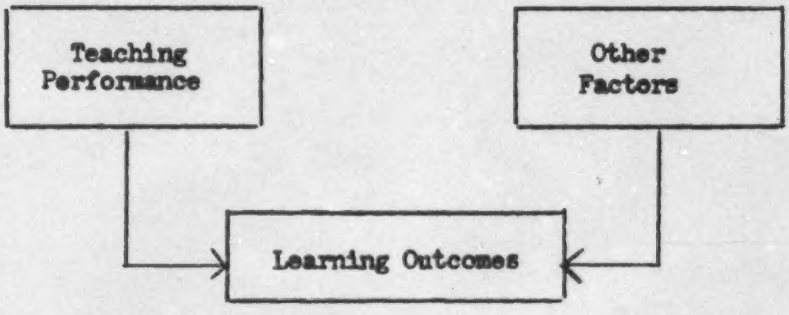


Figure A also fails to do justice to the complexity of the relationship between teaching performance and learning outcomes. "Outcome" is defined as the observable change on the part of the subject in the teaching-learning process--namely, the student. Research has clearly indicated that learning is related to many factors other than teaching performance. If a CBTE model, or for that matter any model, of the teacher education process fails to acknowledge this reality, its viability is extremely limited. Figure C better depicts the relationship between teaching performance and learning outcome:

Figure C



Combining Figures B and C produces Figure D, which is offered as a comprehensive model of the CBTE teacher education process. It begins with the knowledge competencies available in a CBTE program and ends with the outcomes of education as reflected in impact on children.

Figure D

Comprehensive CBTE Model

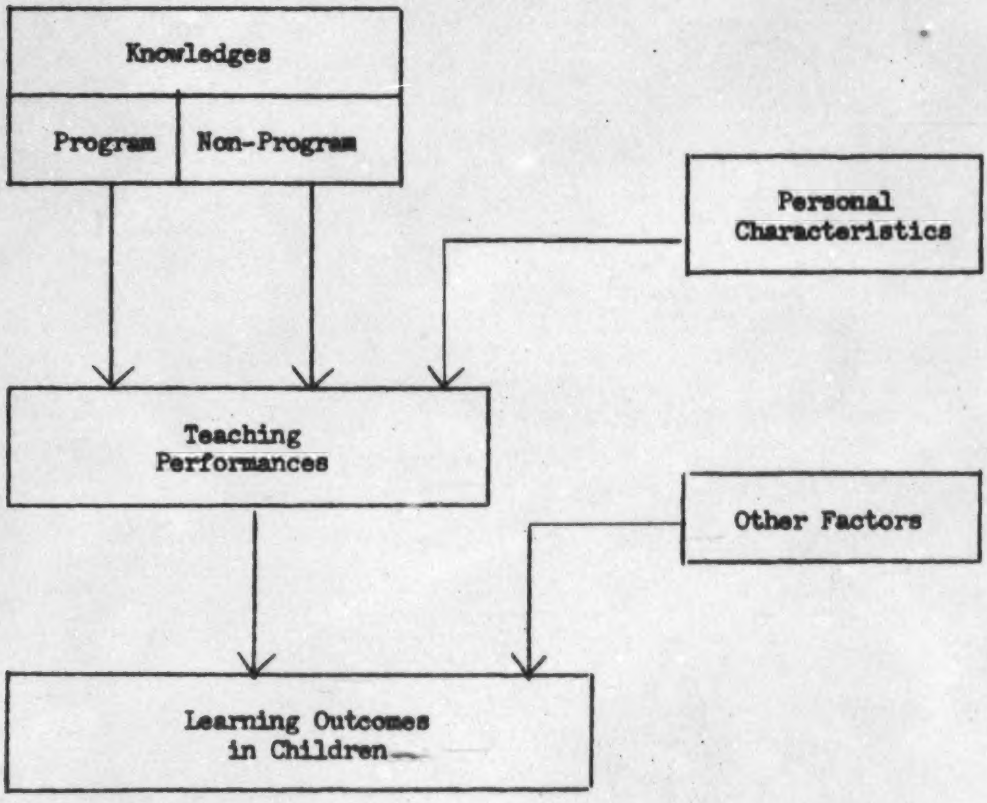
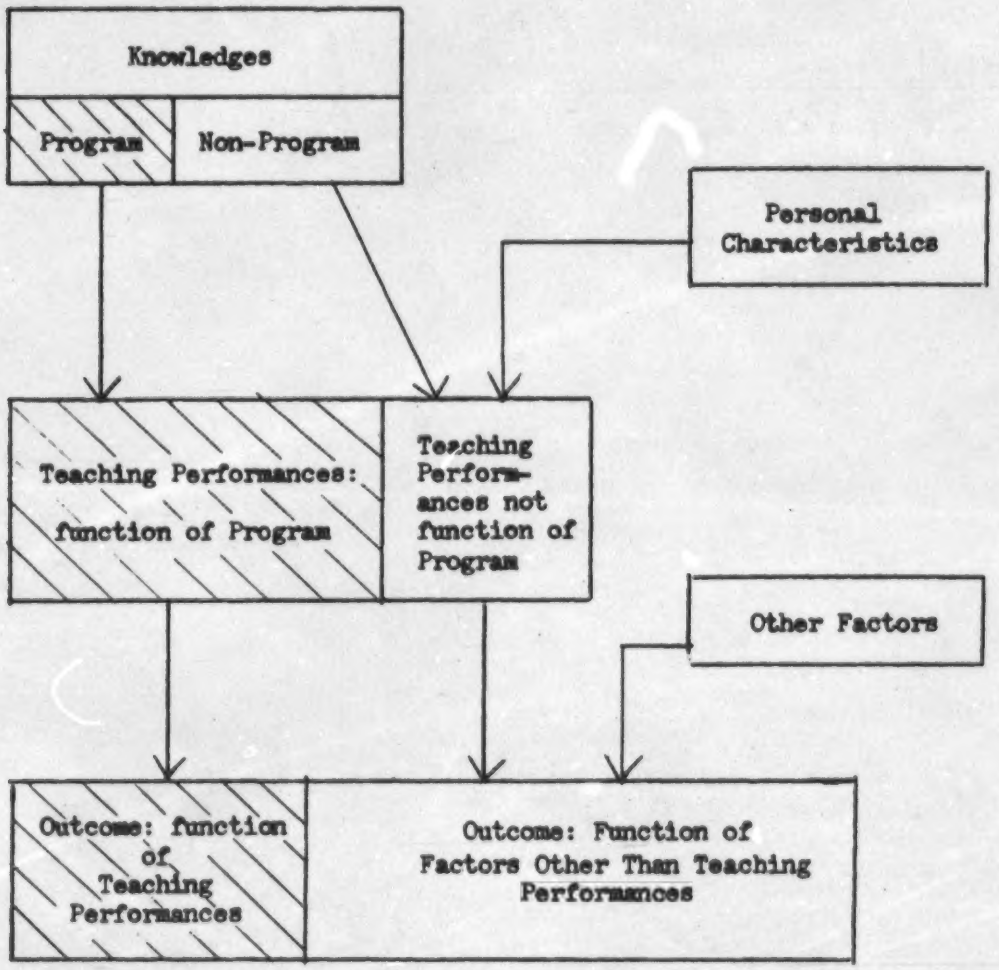


Figure E presents an example of the model as it illustrates a strong CBTE program that has little impact. The shaded areas of the model represents the portion that evaluation shows to be a function of the CBTE program.

Figure E

A CBTE Program With Weak Outcome Impact



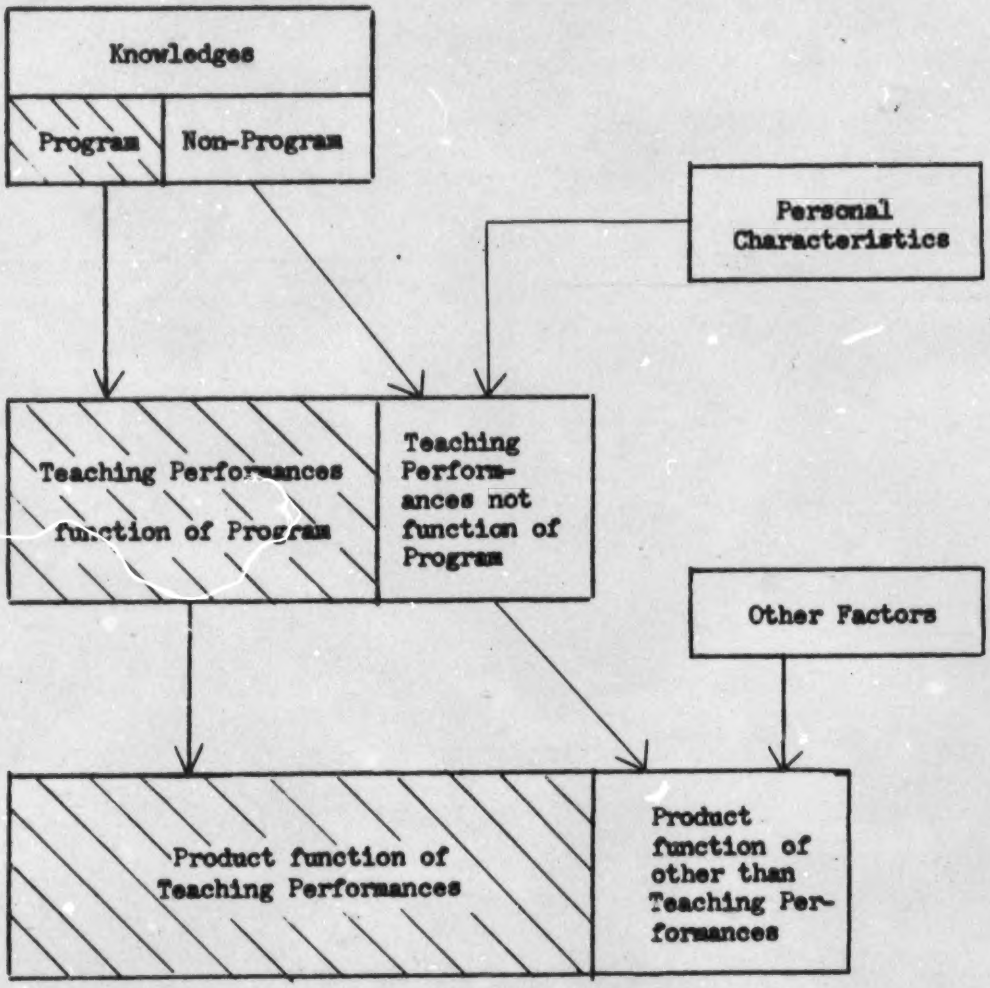
In this CBTE program, a group of knowledge competencies led to an extensive set of performances or performance competencies, but the extensive set of performance competencies did not have a large impact on children (outcome). It might be that the CBTE program could be considered good, at least at the point that the institutional intervention ceased. Teachers who were certified in terms of the program competencies had evidenced an extensive set of teaching performances learned from the CBTE program (the shaded portion of the teaching performances box).

Despite this extensive set of performances, however, these teachers had diminishing impact on children over time. If an evaluation showed this finding, it would suggest that the competencies selected for the program were inappropriate or that the teaching model defined by those competencies was deficient. This aspect of the CBTE model illustrates the need for long-range evaluation that includes a feedback loop to the institutional or consortia arrangement that is responsible for the teacher education program.

This weak-impact situation can be contrasted to the program illustrated in Figure F. The latter perhaps defines the ideal CBTE program. The knowledge competencies in this program lead to an extensive and well-defined set of teaching performances which are shown through empirical evaluation to have a strong impact on children (outcome).

Figure F

CBTE Program With Strong Outcome Impact



Many other situations are possible, and the CBTE model should provide some useful ways to look at each situation. At present, the primary use of the model would seem to be a qualitative one, with little possibility for an empirical utilization. As many different CBTE programs develop, the empirical possibilities will become greater. The sampling unit to answer the evaluation question is the individual teacher being trained. The sampling unit to answer the larger empirical question for the model is the CBTE program itself.

The benefit derived from use of an evaluation model will be an understanding of what assessments have to be made, and where information is to be obtained. Use of the model suggests that the outcomes of a CBTE program have to be looked at as a total system that includes knowledges, performances and outcomes. And finally, the learning outcomes as well as the teaching performances must be seen as a function of variables other than the CBTE program.

Two empirical questions exist that CBTE advocates must still contend with. The first empirical question asks: How effective is a particular CBTE program in training teachers in the competencies it develops? The second empirical question is: How do the competencies relate to student learning? The evaluation model outlined in this paper can lead to the answer to the first question. Placing the evaluation model in the perspective of the CBTE model for teacher education will begin to shed light on the answer to the second question.

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